DIAGRAMS AND CIRCUIT BOARD ILLUSTRATIONS

Symbols

Graphic symbols and class designation letters are based on ANSI Standard Y32.2–1975.

Logic symbols are based on ANSI/IEEE 91–1984. Logic symbols show the logic function performed and may differ from the manufacturer's data.

Abbreviations are based on ANSI Y1.1–1972.

Other ANSI standards used in diagrams are:

Y14.15–1966 Drafting Practices.

Y14.2–1973 Line Conventions and Lettering.

Y10.5–1975 Letter Symbols for Quantities Used in Electrical Science and Electrical Engineering.

American National Standard Institute
1430 Broadway
New York, New York 10018

Component Values

Electrical components shown on the diagrams are in the following units unless noted otherwise:

Capacitors = Values one or greater are in picofarads (pF). Values less than one are in microfarads (μF).

Resistors = Ohms (Ω).

Assembly and Circuit Numbering

Each assembly and subassembly are assigned assembly numbers. The assembly number appears on the circuit board outline on the diagram, in the title for the circuit board illustration, and in the corresponding lookup table.

The Replaceable Electrical Parts list prefixes the circuit numbers with the corresponding assembly and subassembly numbers.

EXAMPLE: R2080 on assembly A20 becomes A20R2080.

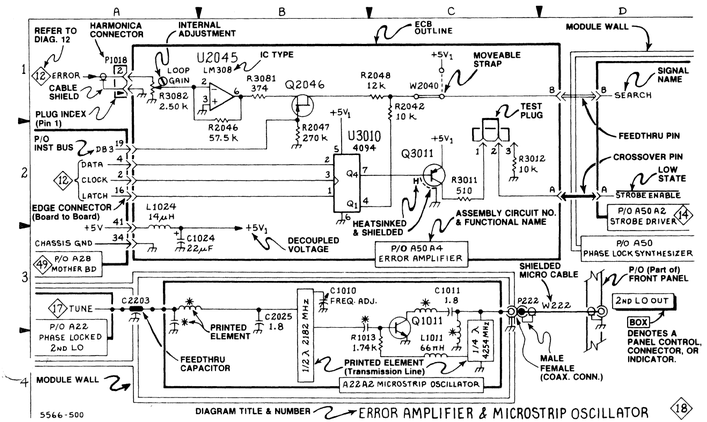
EXAMPLE: U1044 on subassembly A1 of assembly A36 is found in the electrical parts list as A36A1U1044.

Grid Coordinates

The schematic diagrams and circuit board illustrations are labeled with horizontal and vertical grids. Lookup tables with the grid coordinates are provided as a cross reference to help locate components on the corresponding schematic and circuit board.

Sample Diagram

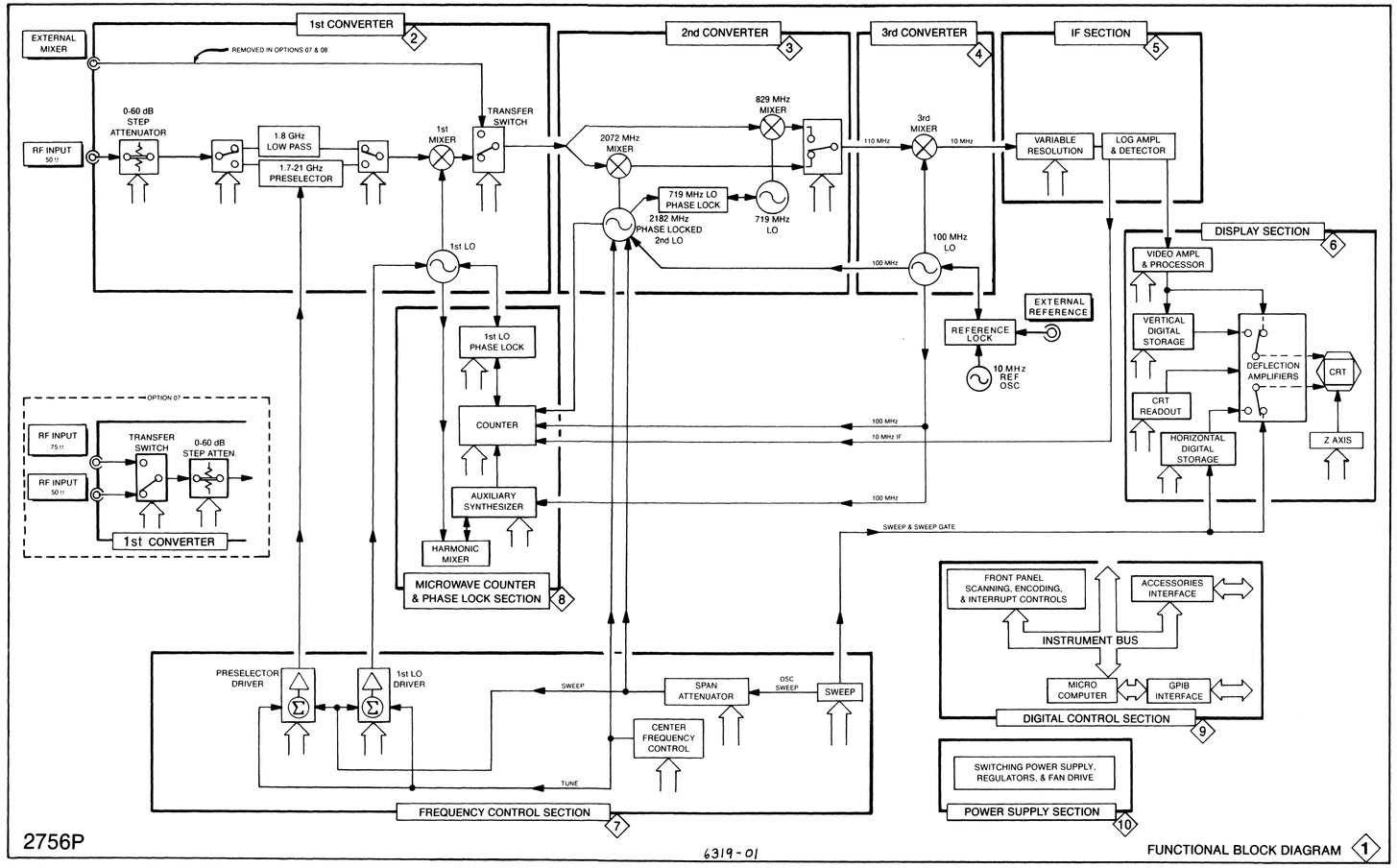
The following sample diagram labels various details found on schematic diagrams.



INDEX

Assembly No. →
Diagram Title & No. ↓

Diagram Title & No.	A10	A11	A12	A13	A14	A16	A18A1	A19A1	A22A1	A22A12A1	A22A2A2	A22A2A3	A23A1	A23A2	A23A3	A23A4	A23A5	A23A6	A23A7	A24	A25	A26A1	A28	A30A1	A30A2	A30A57	A30A76	A32A1	A34A1	A34A3	A36A1	A37	A38	A40	A42A1	A44A1	A46A1	A48A1	A50A1	A50A2	A50A3	A50A4	A50A5	A51A1	A54	A56	A58	A60	A61A1	A62A1	A66A1	A68A1	A68A2	A68A3	A68A4	A68A5	A68A6	A68A7	A68A8	A68A9	A69A1	A69A2	A69A3	A69A4	A70	A72	A74	A77
Block Diagrams																																																																														
Functional Block 1																																																																																								
1st Converter Block 2																																																																																														
2nd Converters Block 3																																																																																														
3rd Converter Block 4																																																																																														
IF Section Block 5																																																																																														
Display Control Section Block 6																																																																																														
Frequency Control Section Block 7																																																																																														
Counter & Phase Lock Section Block 8																																																																																														
Digital Control Section Block 9																																																																																														
Power Supply Section Block 10																																																																																														
RF Deck Interconnect 11																																																																																															
1st Converter & 2072 MHz 2nd Converter 12																																																																																															
Phase Locked 2nd LO 13																																																																																															
Phase Locked 2nd LO 14																																																																																																					
829 MHz 2nd Converter 15																																																																																																				
829 MHz 2nd Converter 16																																																																																																	
110 MHz IF & 3rd Converter 17																																																																																																				
Variable Resolution Mother Boards 18																																																																																															
VR Input & 1st Filter Select 19																																																																																																				
Band Pass Filter Assembly 19A																																																																																														
10 dB Gain, 20 dB Gain, & Band Leveling 20																		



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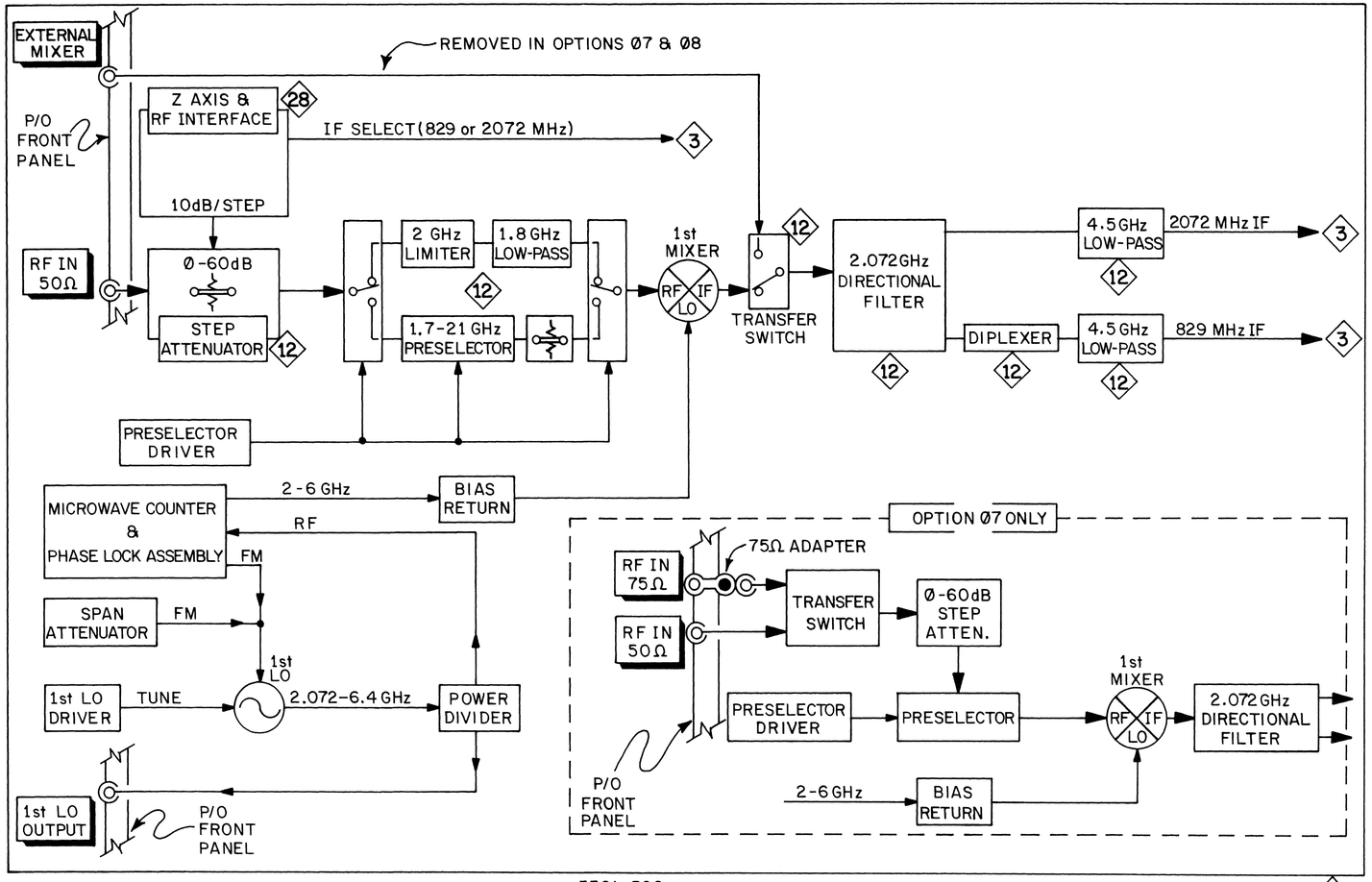
6319-01

FUNCTIONAL BLOCK DIAGRAM 1



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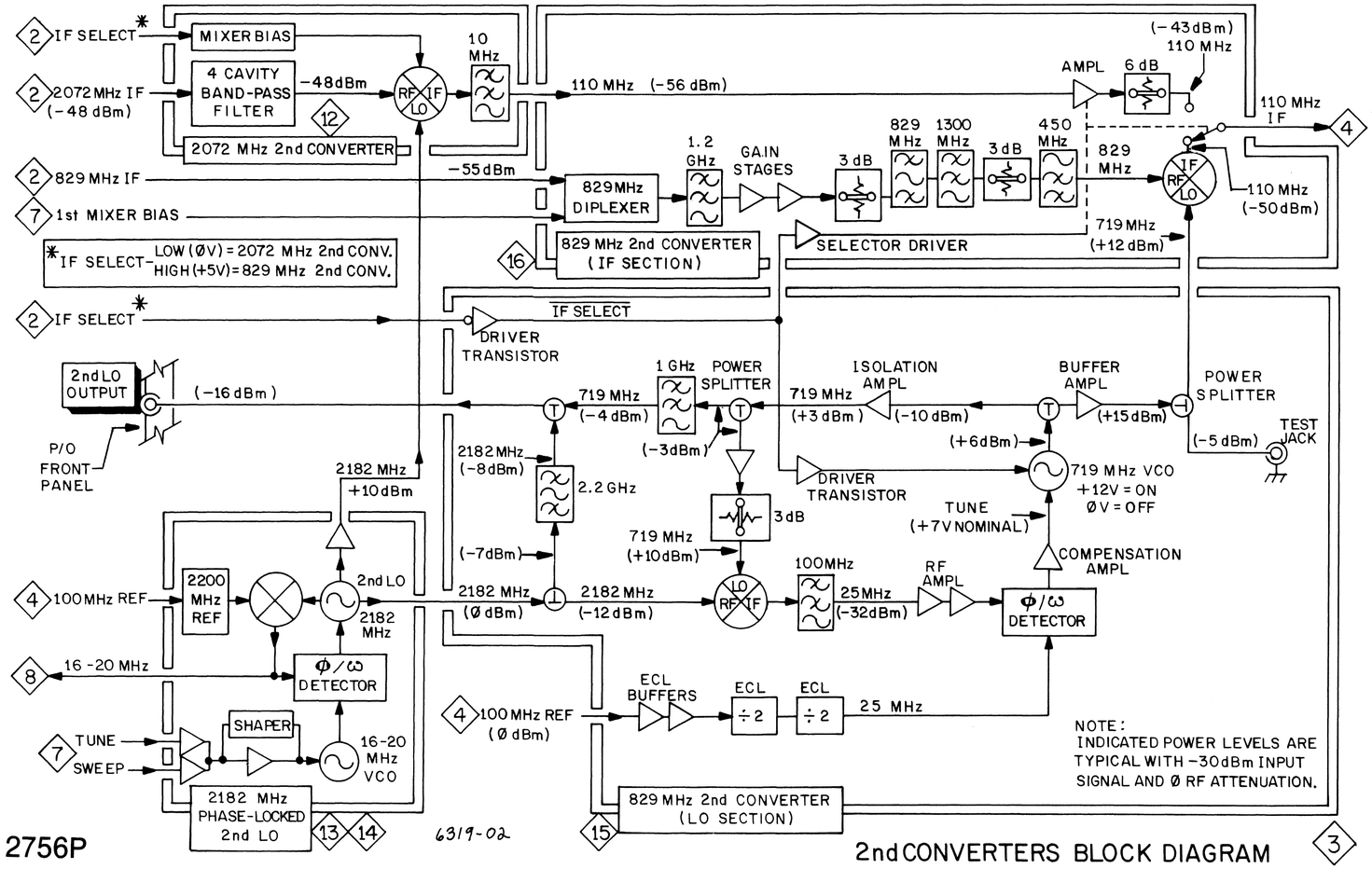
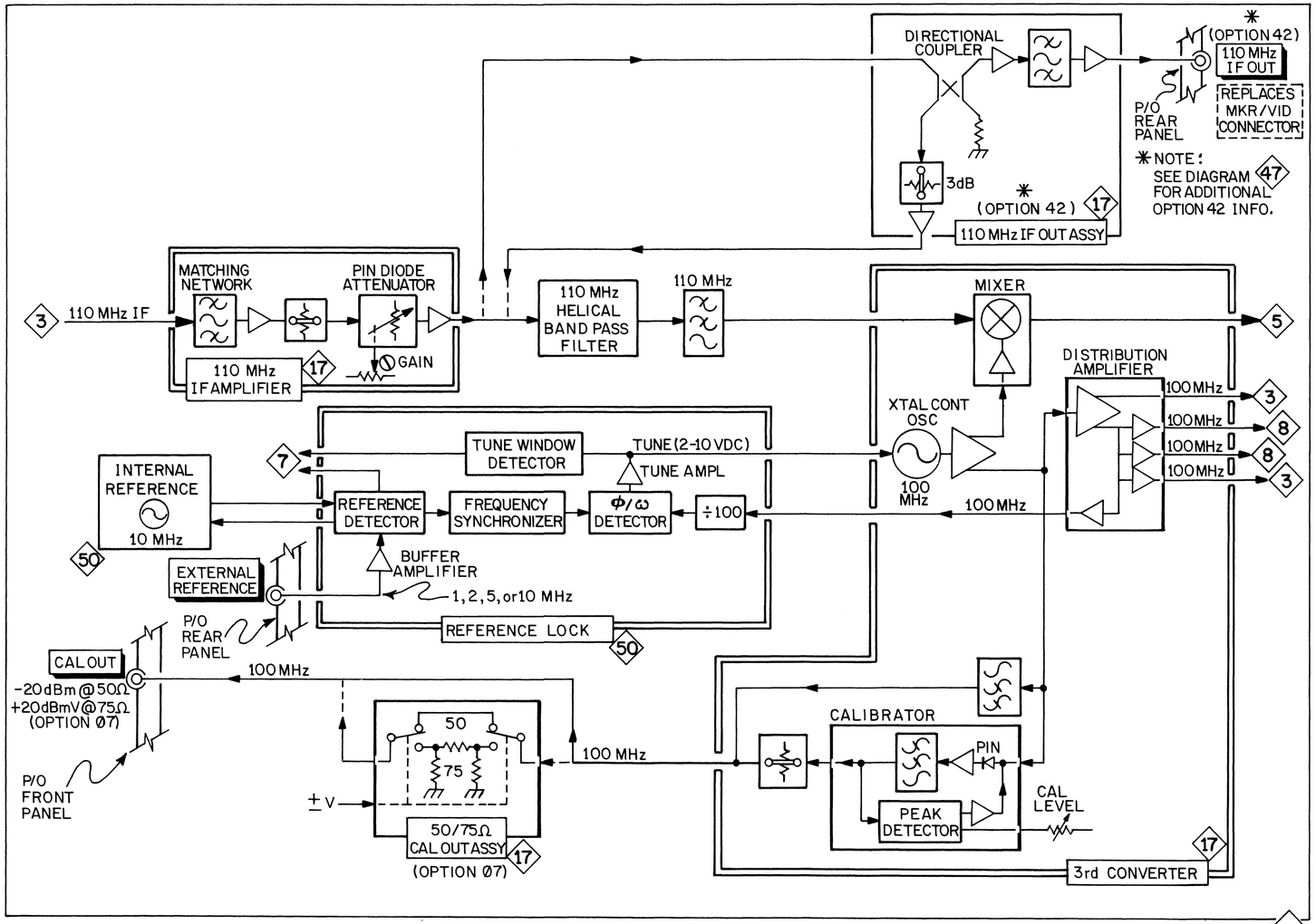
1st CONVERTER BLOCK DIAGRAM 2


2 IF SELECT *
2 2072 MHz IF (-48 dBm)
MIXER BIAS
4 CAVITY BAND-PASS FILTER
-48dBm
12
2072 MHz 2nd CONVERTER
RF IF LO
10 MHz
110 MHz (-56 dBm)
AMPL
6 dB
(-43dBm) 110 MHz
110 MHz IF
4
2 829 MHz IF
7 1st MIXER BIAS
-55dBm
829MHz DIPLEXER
1.2 GHz
GAIN STAGES
3 dB
829 MHz
1300 MHz
3 dB
450 MHz
829 MHz
IF RF LO
110 MHz (-50dBm)
719 MHz (+12 dBm)
SELECTOR DRIVER
16
829 MHz 2nd CONVERTER (IF SECTION)
* IF SELECT - LOW (ØV) = 2072 MHz 2nd CONV.
HIGH (+5V) = 829 MHz 2nd CONV.
2 IF SELECT *
IF SELECT
DRIVER TRANSISTOR
2nd LO OUTPUT
(-16 dBm)
P/O FRONT PANEL
719 MHz (-4 dBm)
1 GHz POWER SPLITTER
719 MHz (+3 dBm)
ISOLATION AMPL
(-10 dBm)
BUFFER AMPL
(+15 dBm)
POWER SPLITTER
(-5 dBm)
TEST JACK
(-3dBm)
(+6dBm)
2182 MHz (-8dBm)
2.2 GHz
2182 MHz +10dBm
DRIVER TRANSISTOR
719 MHz VCO
+12V = ON
ØV = OFF
TUNE (+7V NOMINAL)
3dB
719 MHz (+10dBm)
COMPENSATION AMPL
(-7dBm)
4 100 MHz REF
2200 MHz REF
2nd LO
2182 MHz
2182 MHz (Ø dBm)
2182 MHz (-12 dBm)
LO RF IF
100MHz
25MHz (-32dBm)
RF AMPL
Φ/ω DETECTOR
8 16 -20 MHz
Φ/ω DETECTOR
SHAPER
7 TUNE SWEEP
16-20 MHz VCO
2182 MHz PHASE-LOCKED 2nd LO
13
14
4 100 MHz REF (Ø dBm)
ECL BUFFERS
ECL ÷2
ECL ÷2
25 MHz
NOTE:
INDICATED POWER LEVELS ARE TYPICAL WITH -30dBm INPUT SIGNAL AND Ø RF ATTENUATION.
15
829 MHz 2nd CONVERTER (LO SECTION)
2756P
6319-02
2nd CONVERTERS BLOCK DIAGRAM
3



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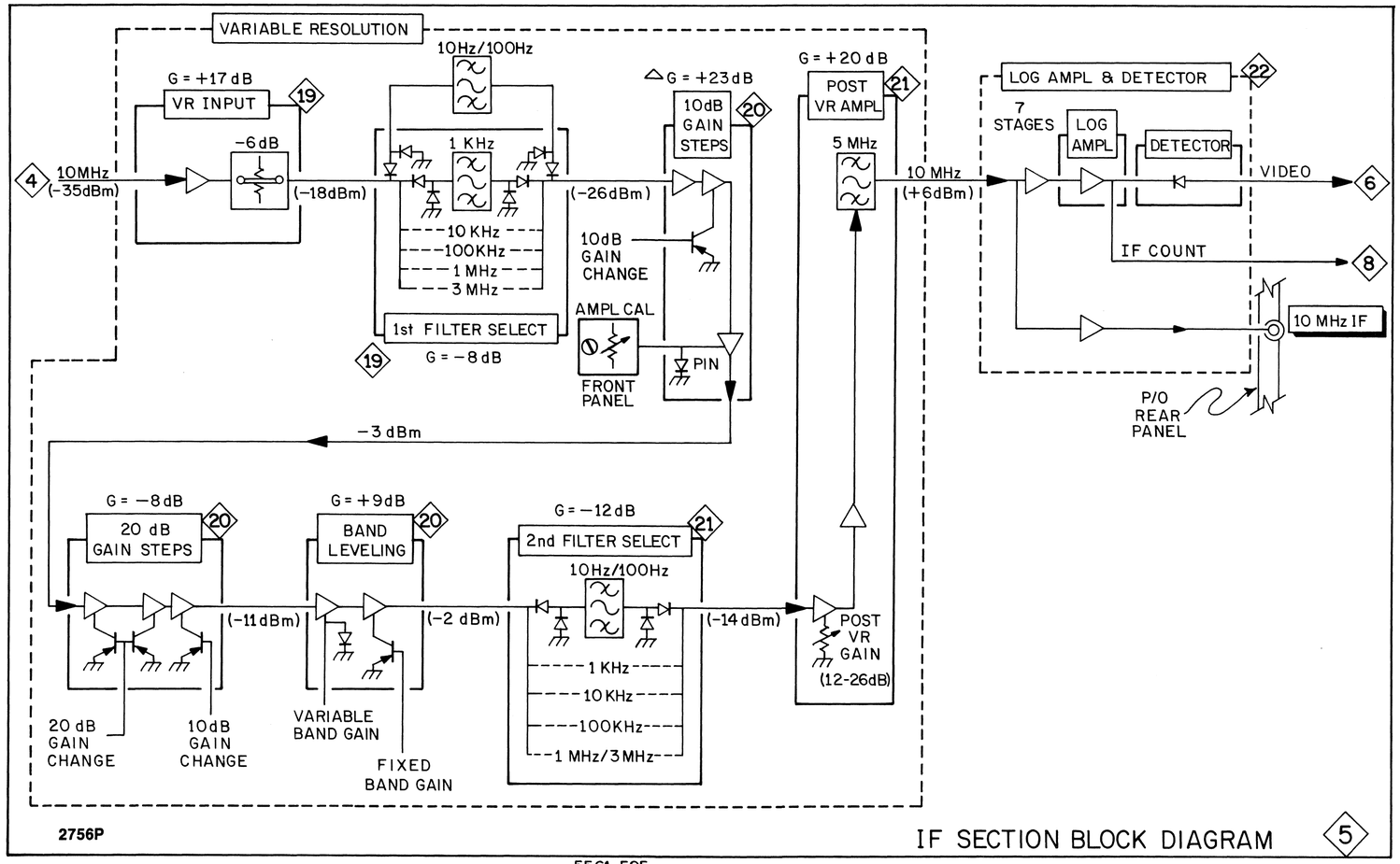
3rd CONVERTER BLOCK DIAGRAM

4


VARIABLE RESOLUTION
10Hz/100Hz
G = +17 dB
VR INPUT
19
-6dB
1 KHz
G = +23dB
10dB GAIN STEPS
20
G = +20 dB
POST VR AMPL
21
LOG AMPL & DETECTOR
22
7 STAGES
LOG AMPL
DETECTOR
VIDEO
6
4
10MHz (-35dBm)
(-18dBm)
(-26dBm)
10 KHz
100KHz
1 MHz
3 MHz
10dB GAIN CHANGE
5 MHz
10 MHz (+6dBm)
IF COUNT
8
AMPL CAL
10 MHz IF
1st FILTER SELECT
19
G = -8 dB
PIN
FRONT PANEL
P/O REAR PANEL
-3 dBm
G = -8dB
20 dB GAIN STEPS
20
G = +9dB
BAND LEVELING
20
G = -12 dB
2nd FILTER SELECT
21
10Hz/100Hz
(-11 dBm)
(-2 dBm)
(-14 dBm)
POST VR GAIN
(12-26dB)
1 KHz
10 KHz
100KHz
1 MHz/3MHz
20 dB GAIN CHANGE
10dB GAIN CHANGE
VARIABLE BAND GAIN
FIXED BAND GAIN
2756P
IF SECTION BLOCK DIAGRAM
5

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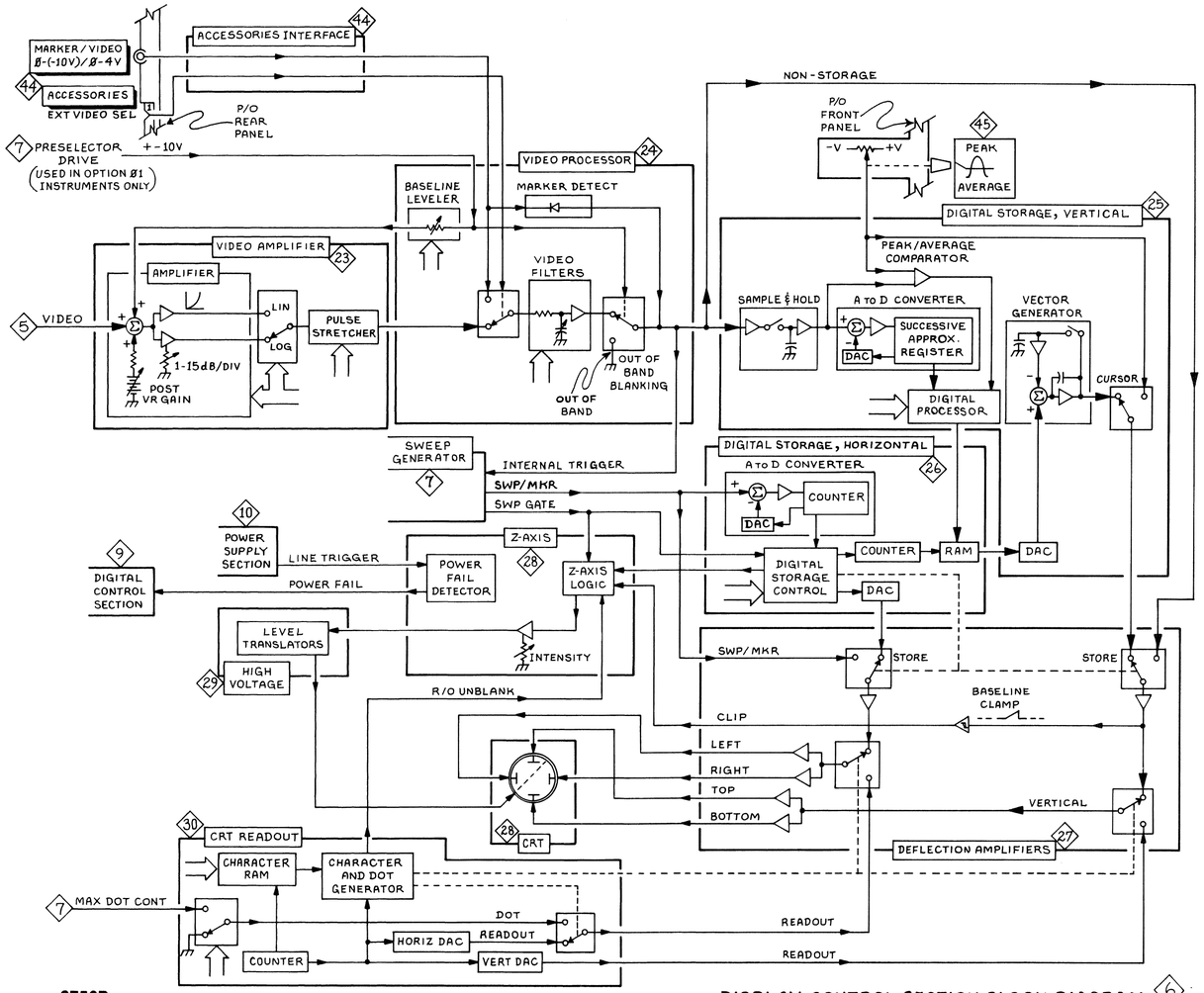

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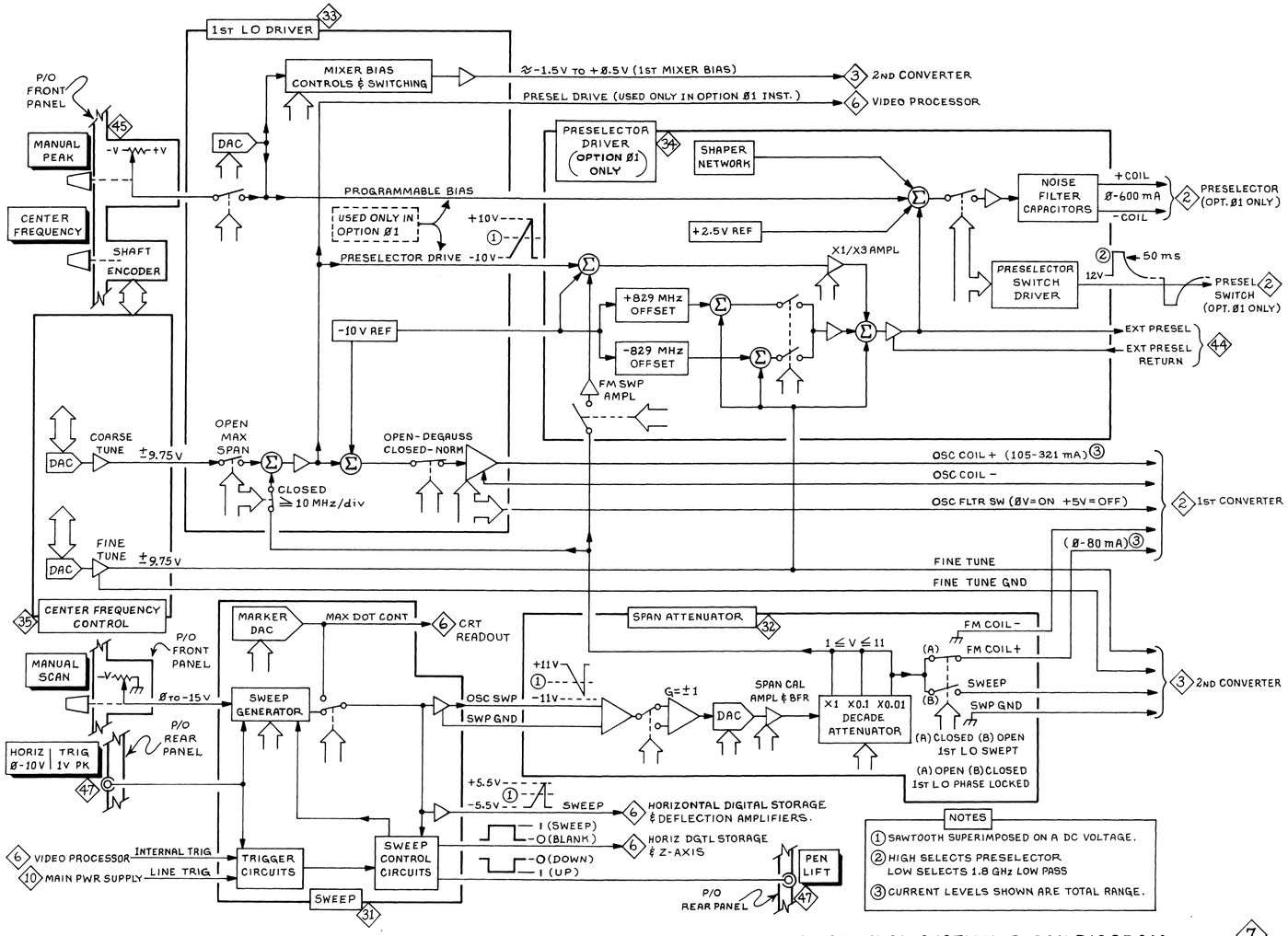
DISPLAY CONTROL SECTION BLOCK DIAGRAM 6



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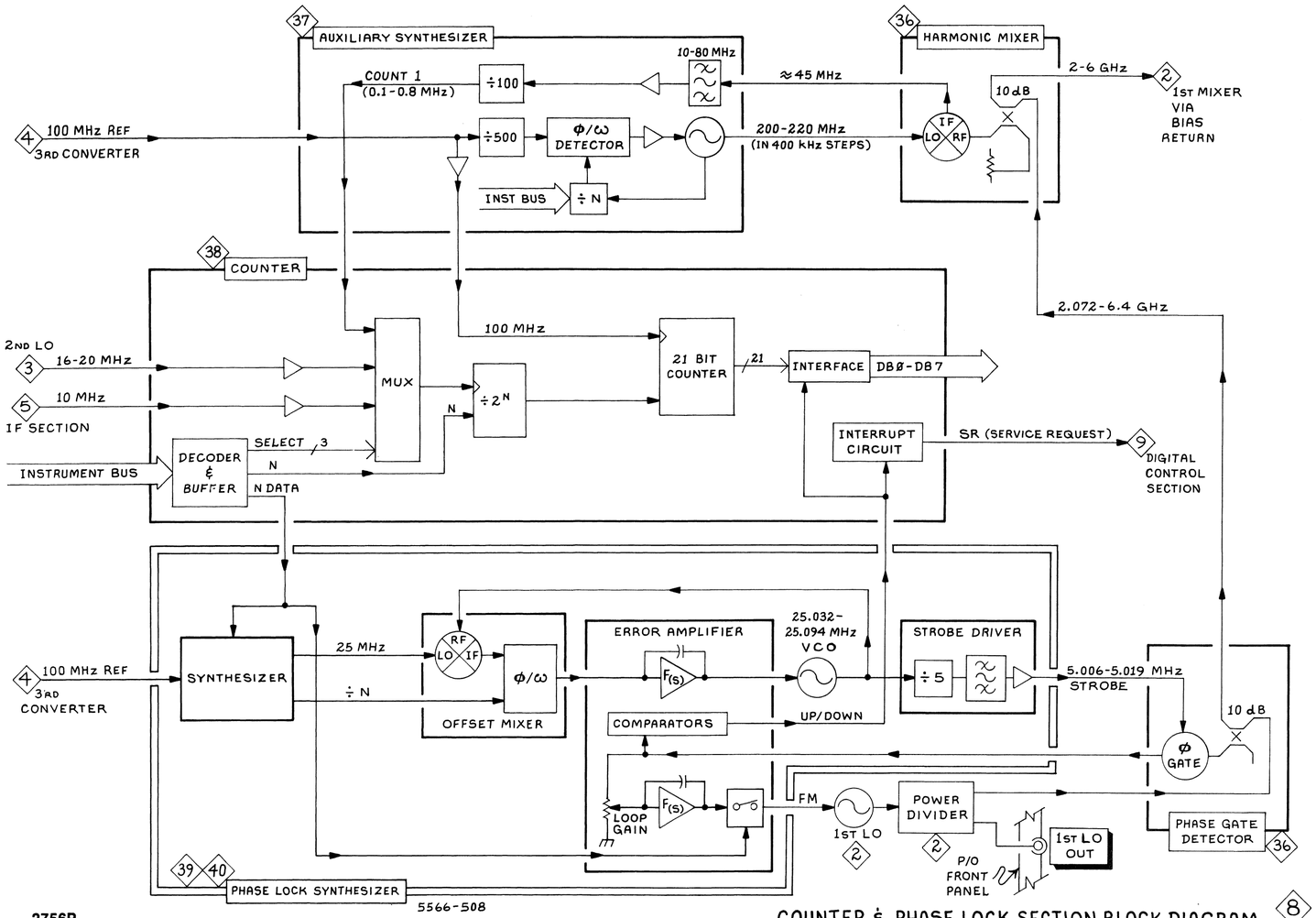
FREQUENCY CONTROL SECTION BLOCK DIAGRAM

7



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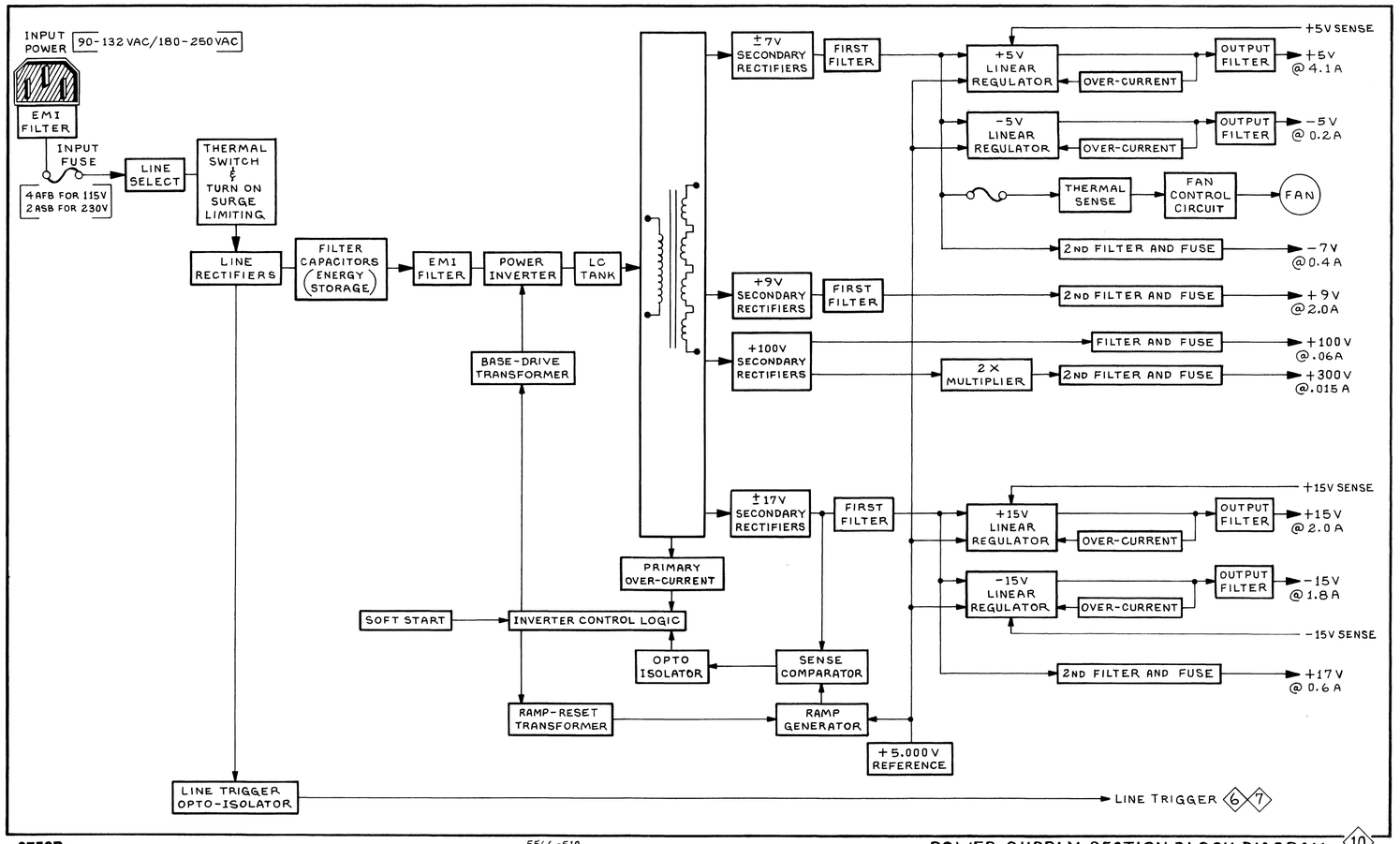
COUNTER & PHASE LOCK SECTION BLOCK DIAGRAM 8



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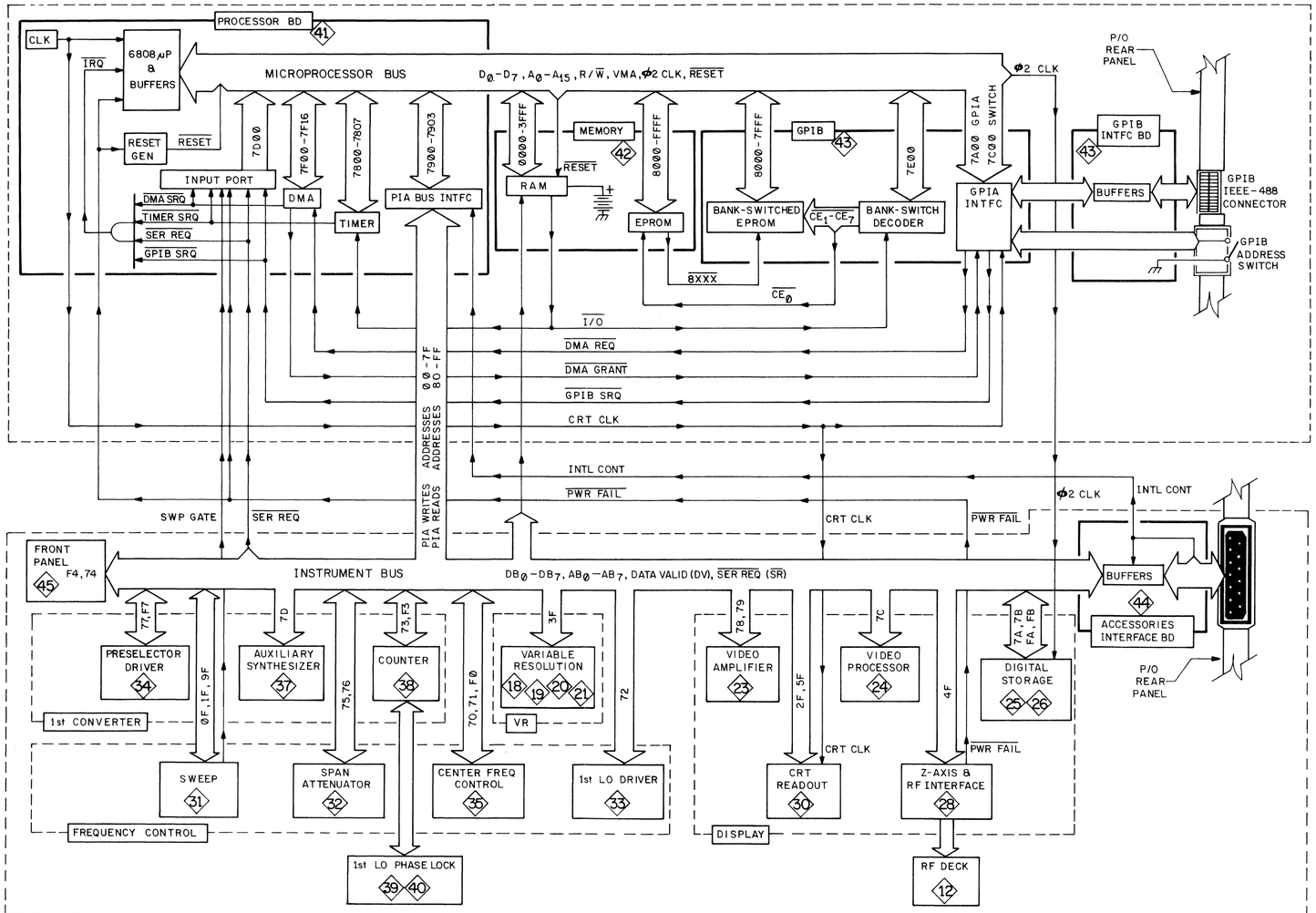
POWER SUPPLY SECTION BLOCK DIAGRAM 10



2756P

6319-05

DIGITAL CONTROL SECTION BLOCK DIAGRAM 9

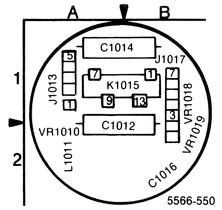


Figure 10-1. A16A1—1st LO Interface circuit board.

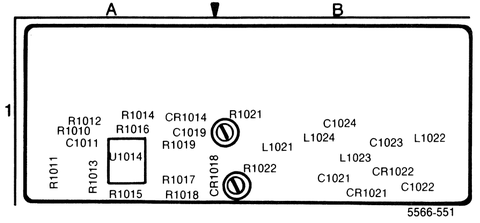
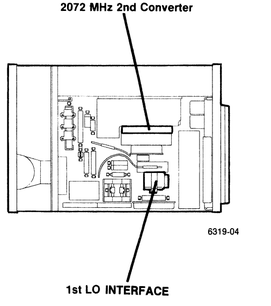
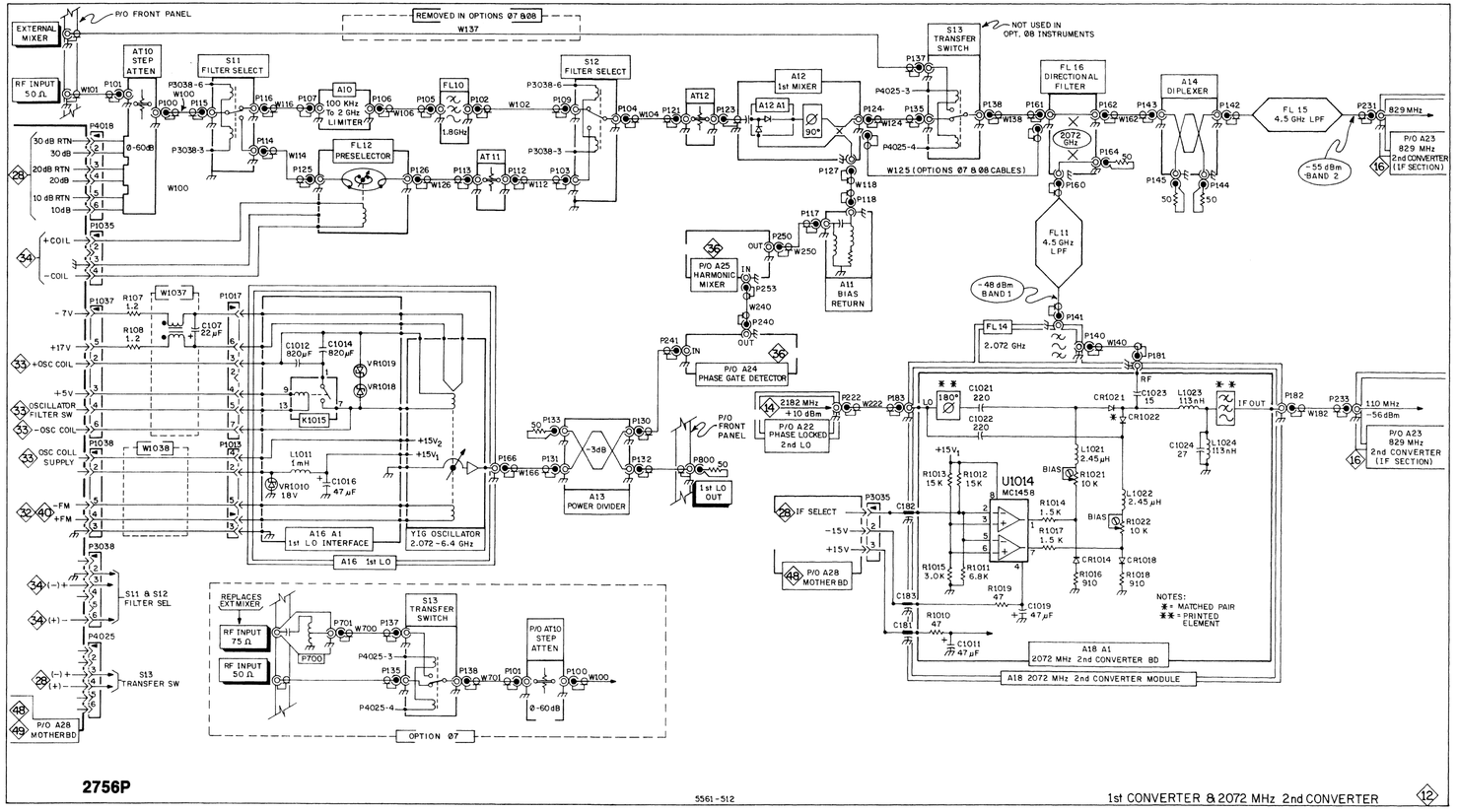


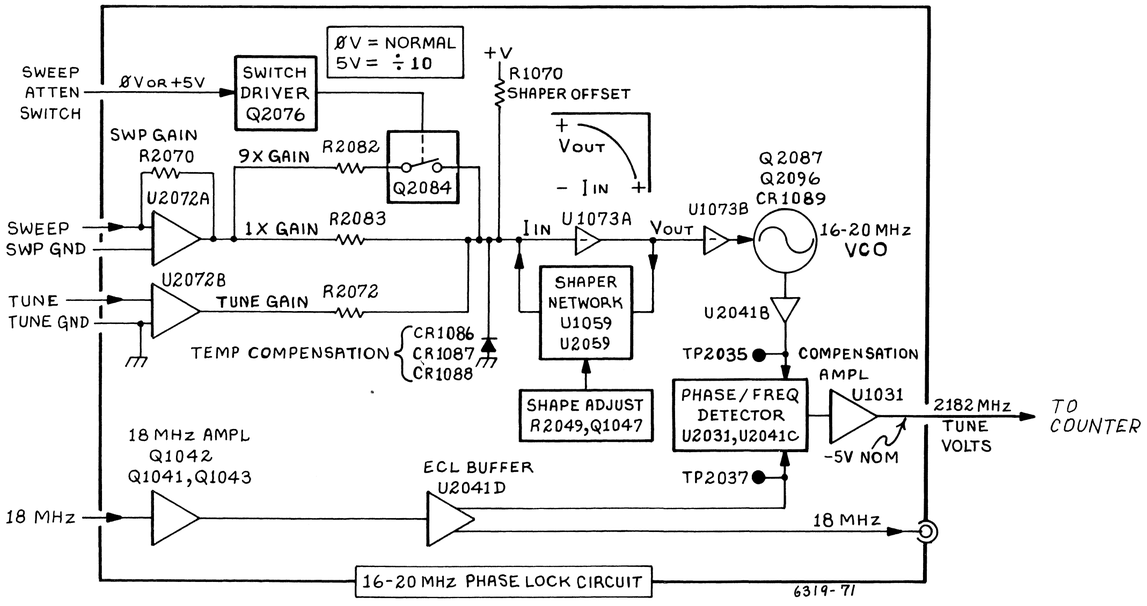
Figure 10-2. A18A1—2072 MHz 2nd Converter circuit board.

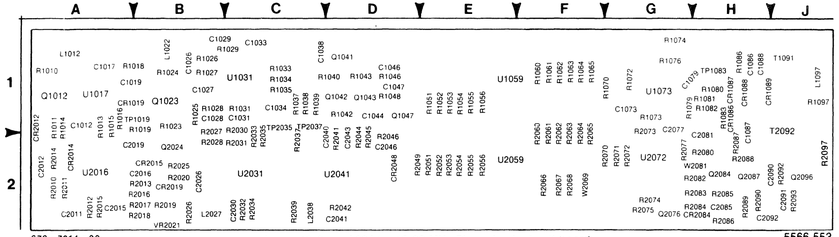


1ST LO & 2072 MHz
2ND CONV CKT BD ILLUS


P/O FRONT PANEL
EXTERNAL MIXER
RF INPUT 50 Ω
REMOVED IN OPTIONS 07 & 08
W137
AT10 STEP ATTEN
S11 FILTER SELECT
A10 100 KHz To 2 GHz LIMITER
FL10 1.8GHz
S12 FILTER SELECT
AT12
A12 1st MIXER
A12 A1
90°
S13 TRANSFER SWITCH
NOT USED IN OPT. 08 INSTRUMENTS
FL16 DIRECTIONAL FILTER
A14 DIPLEXER
FL 15 4.5 GHz LPF
829 MHz
P/O A23 829 MHz 2nd CONVERTER (IF SECTION)
-55 dBm BAND 2
FL12 PRESELECTOR
AT11
W125 (OPTIONS 07 & 08 CABLES)
2072 GHz
30 dB RTN
30 dB
20dB RTN
20dB
10 dB RTN
10dB
Ø-60dB
+COIL
-COIL
FL11 4.5GHz LPF
-48 dBm BAND 1
P/O A25 HARMONIC MIXER
A11 BIAS RETURN
-7V
+17V
+OSC COIL
+5V
OSCILLATOR FILTER SW
-OSC COIL
OSC COLL SUPPLY
-FM
+FM
R107 1.2
R108 1.2
C107 22 µF
C1012 820µF
C1014 820µF
VR1019
VR1018
K1015
L1011 1 mH
VR1010 18V
C1016 47 µF
A16 A1 1st LO INTERFACE
YIG OSCILLATOR 2.072-6.4 GHz
A16 1st LO
+15V2
+15V1
-3dB
A13 POWER DIVIDER
P/O A24 PHASE GATE DETECTOR
P/O FRONT PANEL
1st LO OUT
2182 MHz +10 dBm
P/O A22 PHASE LOCKED 2nd LO
2.072 GHz
180°
C1021 220
C1022 220
CR1021
CR1022
C1023 15
L1023 113nH
C1024 27
L1024 113nH
IF OUT
110 MHz -56dBm
P/O A23 829 MHz 2nd CONVERTER (IF SECTION)
U1014 MC1458
R1013 15K
R1012 15K
R1014 1.5K
R1017 1.5K
R1015 3.0K
R1011 6.8K
R1019 47
R1010 47
C1019 47 µF
C1011 47 µF
L1021 2.45µH
L1022 2.45 µH
R1021 10K
R1022 10K
CR1014
CR1018
R1016 910
R1018 910
BIAS
IF SELECT
-15V
+15V
P/O A28 MOTHERBD
NOTES:
* = MATCHED PAIR
** = PRINTED ELEMENT
A18 A1 2072 MHz 2nd CONVERTER BD
A18 2072 MHz 2nd CONVERTER MODULE
REPLACES EXT MIXER
RF INPUT 75 Ω
RF INPUT 50 Ω
P700
P701
W700
OPTION 07
S11 & S12 FILTER SEL
S13 TRANSFER SW
2756P
5561-512
1st CONVERTER & 2072 MHz 2nd CONVERTER

2182 MHz 2ND LO DIAGRAM
& CKT BD ILLUS





670-7914-00

Figure 10-3. A22A1—16-20 MHz Phase Lock circuit board.

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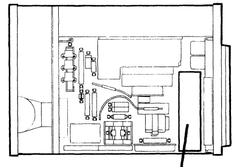
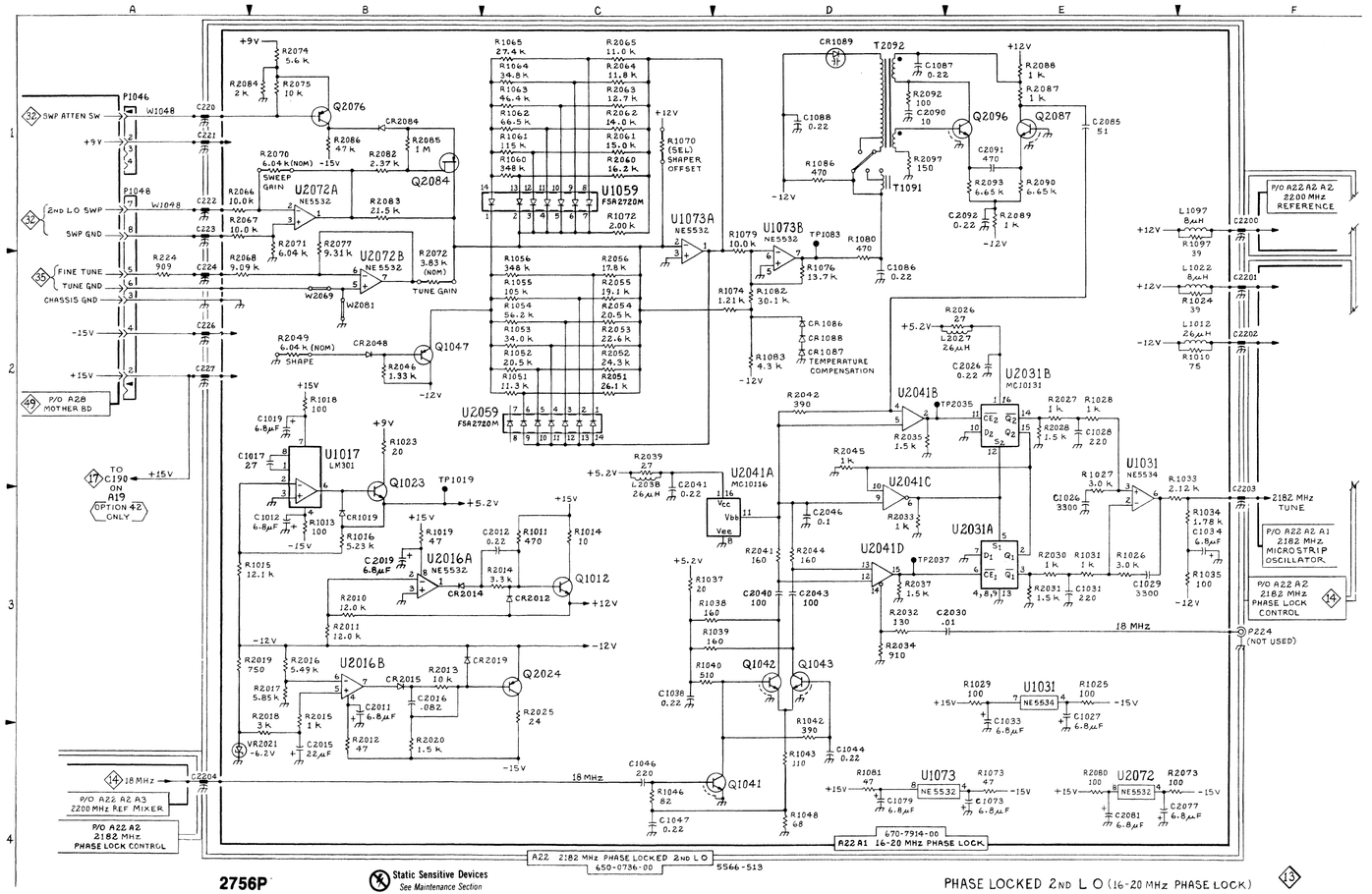


PHASE LOCKED 2nd LO (16-20 MHz PHASE LOCK)

DIAGRAM 13

ASSEMBLY A22A1

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1012	B3	A1	Q1012	C3	A1	R1073	E4	G1	R2070	B1	F2
C1017	A2	A1	Q1023	B2	B1	R1074	D2	G1	R2071	B1	G2
C1019	B2	A1	Q1041	D4	D1	R1076	D2	G1	R2072	B2	G2
C1026	E3	B1	Q1042	D3	D1	R1079	D1	G1	R2073	F4	G1
C1027	E3	B1	Q1043	D3	D1	R1080	D1	H1	R2074	B1	G2
C1028	E2	B1	Q1047	B2	D1	R1081	D4	H1	R2075	B1	G2
C1029	E3	B1	Q2024	C3	B2	R1082	D2	H1	R2077	B1	G2
C1031	E3	C1	Q2076	B1	G2	R1083	D2	H1	R2080	E4	H2
C1033	E3	C1	Q2084	B1	H2	R1086	D1	H1	R2082	B1	H2
C1034	F3	C1	Q2087	E1	H2	R1097	F1	J1	R2083	B1	H2
C1038	C3	C1	Q2096	E1	J2	R2010	B3	A2	R2084	A1	H2
C1044	D4	D1				R2011	B3	A2	R2085	B1	H2
C1046	C4	D1	R1010	F2	A1	R2012	B4	A2	R2086	B1	H2
C1047	C4	D1	R1011	C3	A1	R2013	B3	B2	R2087	E1	H2
C1073	E4	G1	R1013	B3	A1	R2014	C3	A2	R2088	E1	H2
C1079	D4	G1	R1014	C3	A1	R2015	B3	A2	R2089	E1	H2
C1086	D2	H1	R1015	B3	A1	R2016	B3	B2	R2090	E1	H2
C1087	D1	H2	R1016	B3	A1	R2017	B3	B2	R2092	D1	J2
C1088	D1	H1	R1018	B2	A1	R2018	B3	B2	R2093	E1	J2
C2011	B3	A2	R1019	B3	A1	R2019	B3	B2	R2097	D1	J2
C2012	C3	A2	R1023	B2	B1	R2020	B4	B2			
C2015	B4	A2	R1024	E2	B1	R2025	C3	B2	T1091	D1	J1
C2016	B3	B2	R1024	F2	B1	R2026	E2	B2	T2092	D1	J1
C2019	B3	A2	R1025	E3	B1	R2027	E2	B2			
C2026	E2	B2	R1026	E3	B1	R2028	E2	B2	TP1019	B2	A1
C2030	E3	C2	R1027	E2	B1	R2030	E3	C2	TP1083	D1	H1
C2040	D3	D2	R1028	B1	B1	R2031	E3	C2	TP2035	E2	C1
C2041	C2	D2	R1029	E3	C1	R2032	D3	C2	TP2037	D3	C1
C2043	D3	D2	R1031	E3	C1	R2033	D3	C2			
C2046	D3	D2	R1033	F2	C1	R2034	D3	C2	U1017	B2	A1
C2077	F4	G1	R1034	F3	C1	R2035	D2	C2	U1031	E2	C1
C2081	E4	H2	R1035	F3	C1	R2037	D3	C2	U1031	E3	C1
C2085	E1	H2	R1037	C3	C1	R2039	C2	C2	U1059	C1	E1
C2090	D1	H2	R1038	C3	C1	R2041	D3	D2	U1073A	C1	G1
C2091	E1	J2	R1039	C3	C1	R2042	D2	D2	U1073B	D1	G1
C2092	E1	H2	R1040	C3	D1	R2044	D3	D2	U1073	D4	G1
			R1042	D3	D1	R2045	D2	D2	U2016A	B3	A2
CR1019	B3	A1	R1043	D4	D1	R2046	B2	D2	U2016B	B3	A2
CR1086	D2	H1	R1046	C4	D1	R2049	B2	D2	U2031A	E3	C2
CR1087	D2	H1	R1048	D4	D1	R2051	C2	E2	U2031B	E2	C2
CR1088	D2	H1	R1051	C2	E1	R2052	C2	E2	U2041A	D2	D2
CR1089	D1	H1	R1052	C2	E1	R2053	C2	E2	U2041B	D2	D2
CR2012	C3	A1	R1053	C2	E1	R2054	C2	E2	U2041C	D2	D2
CR2014	B3	A2	R1054	C2	E1	R2055	C2	E2	U2041D	D3	D2
CR2015	B3	B2	R1055	C2	E1	R2056	C2	E2	U2059	B2	E2
CR2019	B3	B2	R1056	C2	E1	R2060	C1	F2	U2072A	B1	G2
CR2048	B2	D2	R1060	C1	F1	R2061	C1	F2	U2072B	B2	G2
CR2084	B1	H2	R1061	C1	F1	R2062	C1	F2	U2072	E4	G2
			R1062	C1	F1	R2063	C1	F2			
L1012	F2	A1	R1063	C1	F1	R2064	C1	F2	VR2021	B4	B2
L1022	F2	B1	R1064	C1	F1	R2065	C1	F2			
L1097	F1	J1	R1065	C1	F1	R2066	A1	F2	W2069	B2	F2
L2027	E2	B2	R1070	C1	G1	R2067	A1	F2	W2081	B2	H2
L2038	C2	C2	R1072	C1	G1	R2068	A2	F2			



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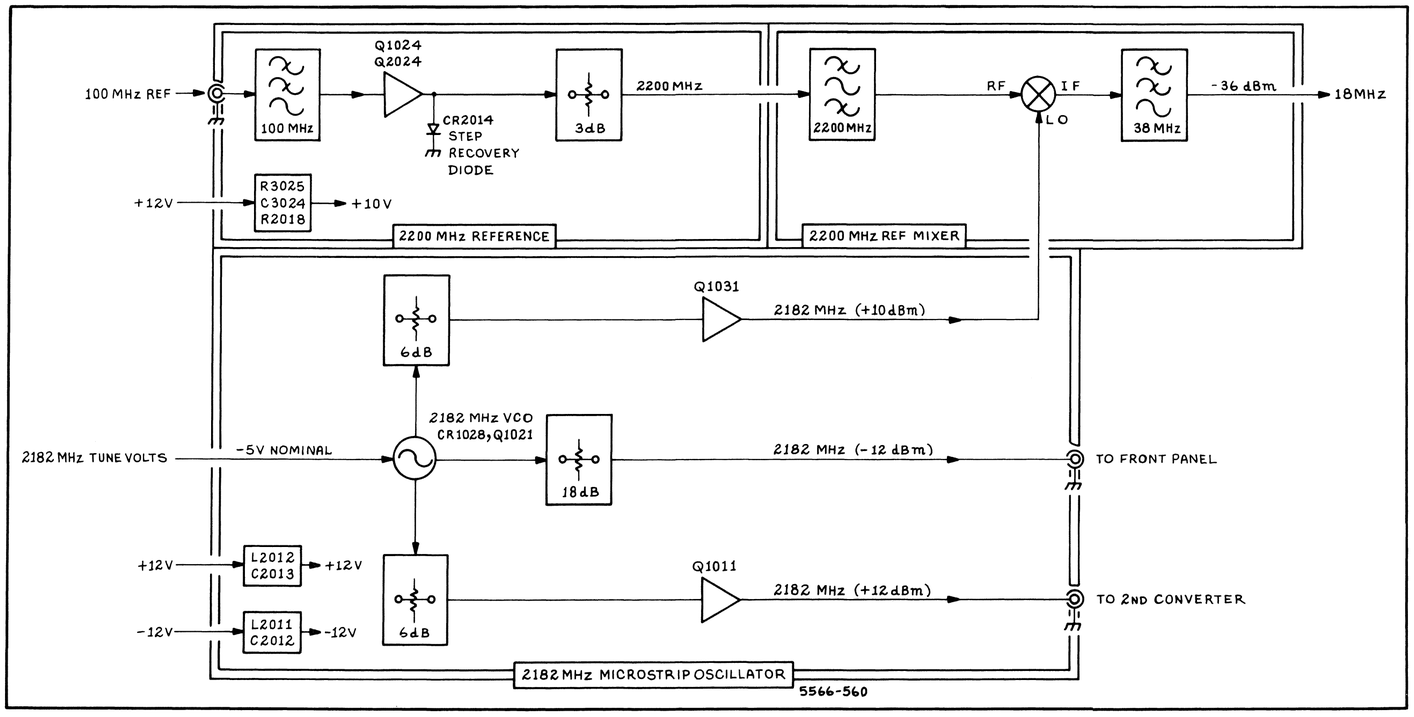
Static Sensitive Devices
See Maintenance Section

PHASE LOCKED 2ND L O (16-20 MHz PHASE LOCK) 13



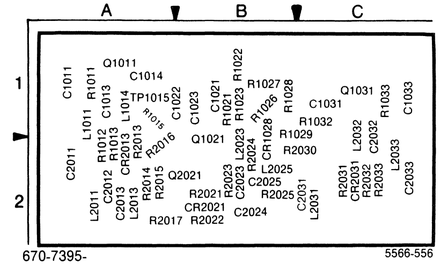


Figure 10-4. A22A2A1—2182 MHz Microstrip Oscillator circuit board.

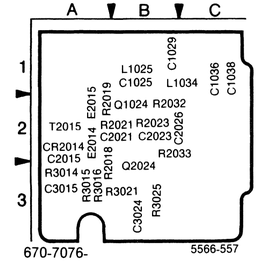


Figure 10-5. A22A2A2—2200 MHz Reference circuit board.

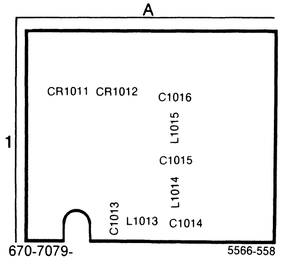
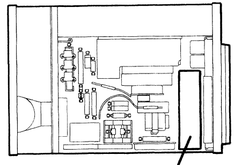


Figure 10-6. A22A2A3—2200 MHz Reference Mixer circuit board.



PHASE LOCKED 2nd LO (LO & 2200 MHz REF/CONV) ◇14

Assembly A22A2A1

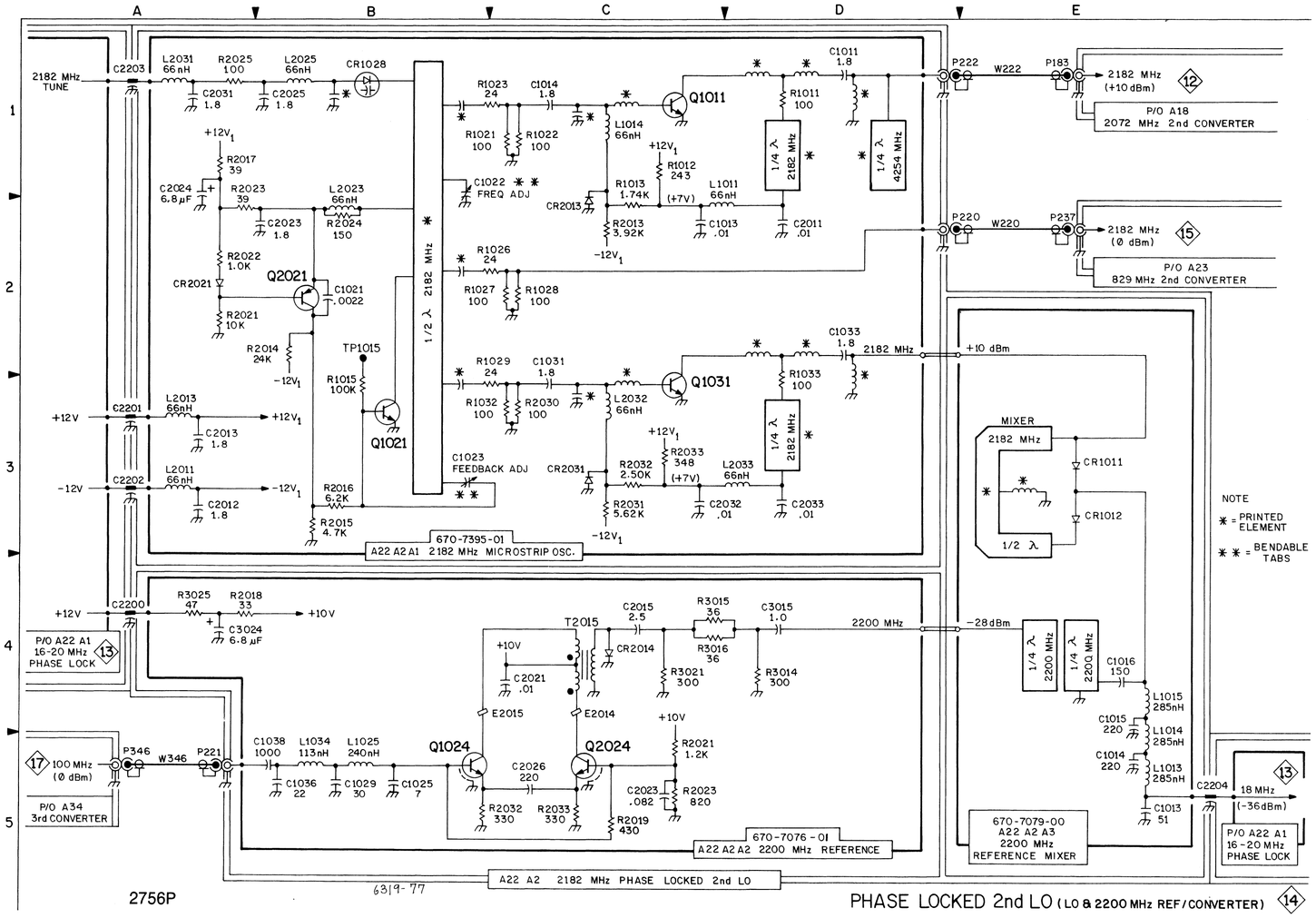
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1011	D1	A1	L1011	D1	A1	R1027	C2	B1
C1013	D2	A1	L1014	C1	A1	R1028	C2	B1
C1014	C1	A1	L2011	A3	A2	R1029	C2	B1
C1021	B2	B1	L2013	A3	A2	R1032	C3	C1
C1021	B3	B1	L2023	B1	B2	R1032	C3	C1
C1022	C1	A1	L2025	B1	B2	R1033	D2	C1
C1023	B3	B1	L2031	A1	C2	R2013	C2	A2
C1031	C2	C1	L2032	C3	C1	R2014	B2	A2
C1033	D2	C1	L2033	D3	C2	R2015	B3	A2
C2011	D2	A2				R2016	B3	A2
C2012	A3	A2	Q1011	C1	A1	R2017	A1	A2
C2013	A3	A2	Q1021	B3	B2	R2021	A2	B2
C2023	B2	B2	Q1031	C3	C1	R2022	A2	B2
C2024	A1	B2	Q2021	B2	B2	R2023	A1	B2
C2025	B1	B2				R2024	B2	B2
C2031	A1	B2	R1011	D1	A1	R2025	A1	B2
C2032	D3	C1	R1012	C1	A2	R2030	C3	B2
C2033	D3	C2	R1013	C1	A2	R2031	C3	C2
			R1015	B3	A1	R2032	C3	C2
CR1028	B1	B2	R1021	C1	B1	R2033	C3	C2
CR2013	C2	A2	R1022	C1	B1			
CR2021	A2	B2	R1023	C1	B1	TP1015	B2	A1
CR2031	C3	C2	R1026	C2	B1			

Assembly A22A2A2

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1025	B5	B1	E2014	C4	A2	R2023	C5	B2
C1029	B5	B1	E2015	C4	A2	R2032	C5	B2
C1036	B5	C1				R2033	C5	B2
C1038	B5	C1	L1025	B5	B1	R3014	D4	A3
C2015	C4	A2	L1034	B5	B1	R3015	C4	A3
C2021	C4	B2				R3016	C4	A3
C2023	C5	B2	Q1024	B5	B2	R3021	C4	B3
C2026	C5	B2	Q2024	C5	B3	R3025	A4	B3
C3015	D4	A3						
C3024	A4	B3	R2018	A4	A3	T2015	C4	A2
			R2019	C5	A2			
CR2014	C4	A2	R2021	C5	B2			

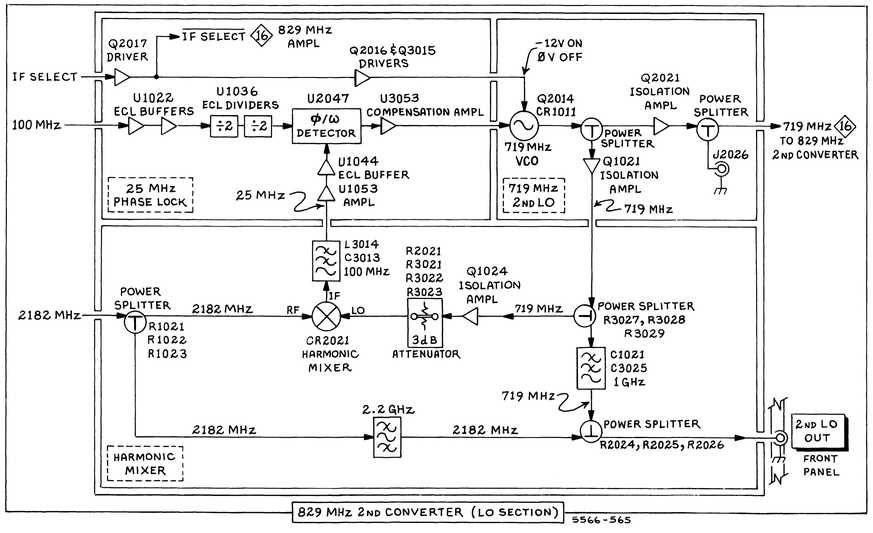
Assembly A22A2A3

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1013	E5	A1	CR1011	E3	A1	L1014	E4	A1
C1014	E5	A1	CR1012	E3	A1	L1015	E4	A1
C1015	E4	A1						
C1016	E4	A1	L1013	E5	A1			



PHASE LOCKED 2nd LO (LO & 2200 MHz REF/CONVERTER)

PHASE LOCKED 2ND LO (LO & 2200 MHz REF CONVERTER) ◇4



829 MHz 2nd CONV
BLOCK DIAG & CKT BD ILLUS

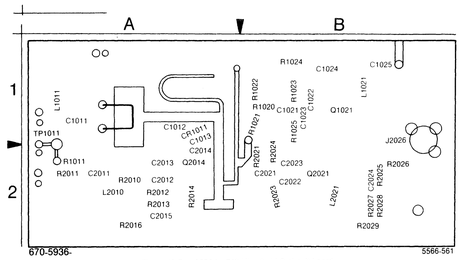


Figure 10-7. A23A1—719 MHz 2nd LO circuit board.

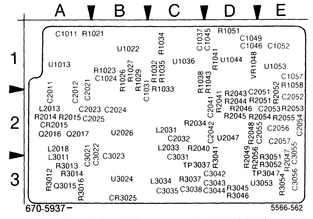


Figure 10-8. A23A2—25 MHz Phase Lock circuit board.

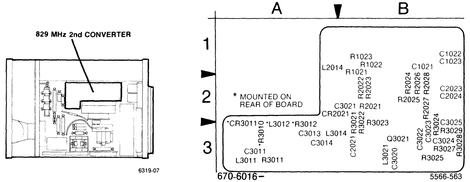
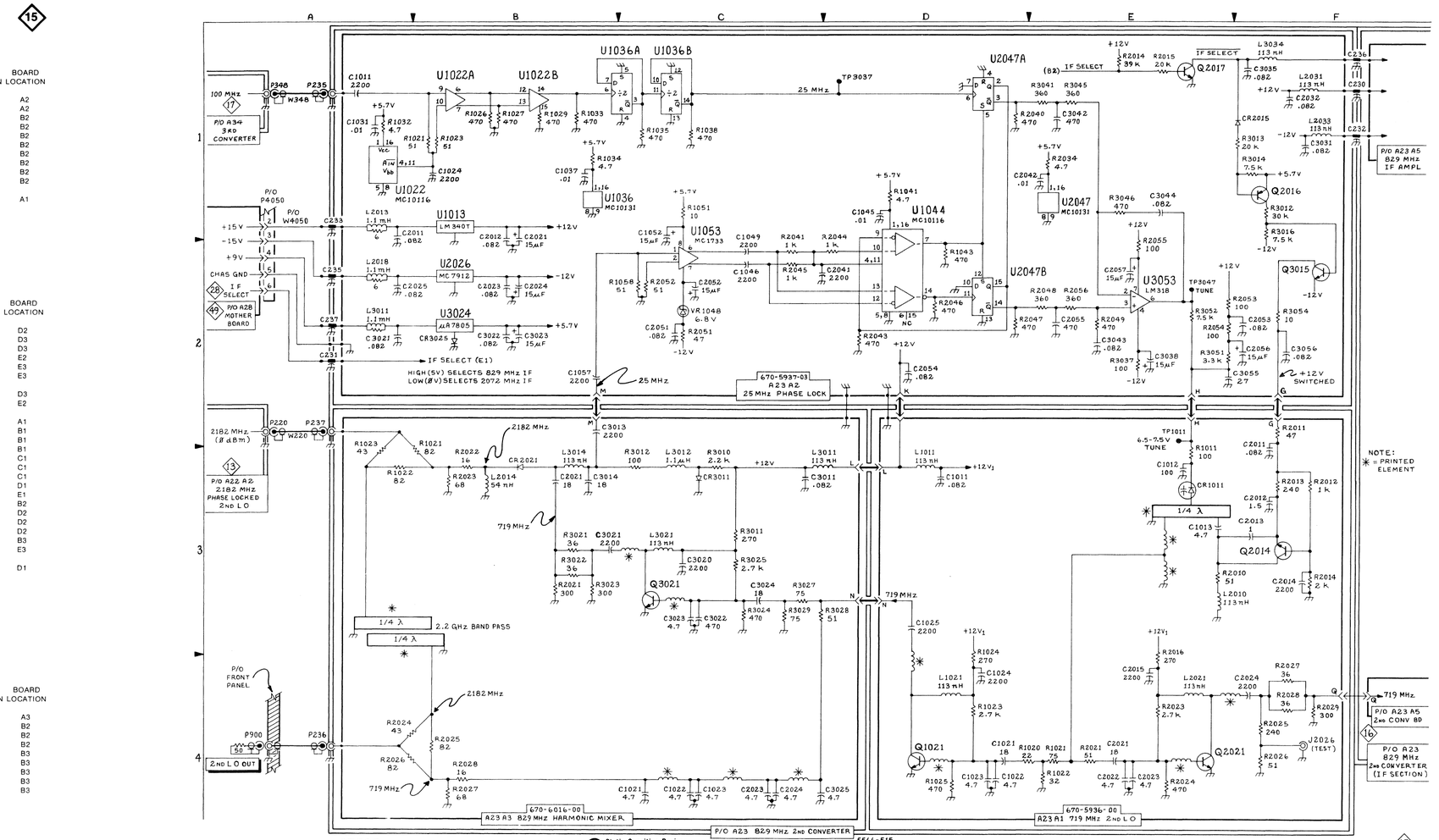


Figure 10-9. A23A3—Harmonic Mixer circuit board.

829 MHz 2nd CONVERTER (LO SECTION)



ASSEMBLY A23A1

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1011	D3	A1	C2022	E4	B2	Q2014	F3	A2	R2014	F3	A2
C1012	E3	A1	C2023	E4	B2	Q2021	E4	B2	R2016	E3	A2
C1013	E3	A1	C2024	F4	B2				R2021	E4	B2
C1021	D4	B1				R1011	E3	A2	R2023	E4	B2
C1022	D4	B1	CR1011	E3	A1	R1020	D4	B1	R2024	E4	B2
C1023	D4	B1				R1021	E4	B1	R2025	F4	B2
C1024	D4	B1	J2026	F4	B1	R1022	E4	B1	R2026	F4	B2
C1025	D3	B1				R1023	D4	B1	R2027	F4	B2
C2011	F3	A2	L1011	D3	A1	R1024	D3	B1	R2028	F4	B2
C2012	F3	A2	L1021	D4	B1	R1025	D4	B1	R2029	F4	B2
C2013	F3	A2	L2010	E3	A2	R2010	E3	A2			
C2014	F3	A2	L2021	E4	B2	R2011	F2	A2	TP1011	E2	A1
C2015	E4	A2				R2012	F3	A2			
C2021	E4	B2	Q1021	D4	B1	R2013	F3	A2			

ASSEMBLY A23A2

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1011	A1	A1	C3031	F1	C2	R1034	B1	C1	R3041	E1	D2
C1024	B1	B1	C3035	F1	C3	R1035	C1	C1	R3045	E1	D3
C1031	A1	B1	C3038	E2	C3	R1038	C1	C1	R3046	E1	D3
C1037	B1	C1	C3042	E1	D3	R1041	D1	D1	R3051	E2	E2
C1045	D1	D1	C3043	E2	D3	R1043	D2	D1	R3052	E2	E3
C1046	C2	D1	C3044	E1	D3	R1051	C1	D1	R3054	F2	E3
C1049	C1	D1	C3055	F2	E3	R1058	C2	E1			
C1052	C1	E1	C3056	F2	E3	R2014	E1	A2	TP3037	D1	D3
C1057	B2	E1				R2015	E1	A2	TP3047	E2	E2
C2011	A1	A2	CR2015	F1	A2	R2034	E1	C2			
C2012	B1	A2				R2040	D1	C2	U1013	B1	A1
C2021	B1	A2	L2013	A1	A2	R2041	C1	D2	U1022A	B1	B1
C2021	E4	A2	L2018	A2	A2	R2043	D2	D2	U1022B	B1	B1
C2023	B2	B2	L2031	F1	C2	R2044	D1	D2	U1022	A1	B1
C2023	E4	B2	L2033	F1	C2	R2045	C2	D2	U1036A	C1	C1
C2024	B2	B2	L3011	A2	A3	R2046	D2	D2	U1036B	C1	C1
C2025	A2	B2	L3034	F1	C3	R2047	D2	E3	U1036	B1	C1
C2032	F1	C2				R2048	E2	D2	U1044	D1	D1
C2041	D2	D2	Q2016	F1	A2	R2049	E2	D2	U1053	C1	E1
C2042	D1	D2	Q2017	E1	A2	R2051	C2	E2	U2026	B2	B2
C2051	C2	E2	Q3015	F2	A3	R2052	C2	E2	U2047A	D1	D2
C2052	C2	E2				R2053	F2	E2	U2047B	D2	D2
C2053	F2	E2	R1021	A1	A1	R2054	E2	E2	U2047	E1	D2
C2054	D2	E2	R1021	E4	A1	R2055	E1	E2	U3024	B2	B3
C2055	E2	E2	R1023	B1	B1	R2056	E2	E2	U3053	E2	E3
C2056	F2	E2	R1026	B1	B1	R3012	F1	A3			
C2057	E2	E2	R1027	B1	B1	R3013	F1	A3	VR1048	C2	D1
C3021	A2	A3	R1029	B1	B1	R3014	F1	A3			
C3022	B2	B2	R1032	A1	C1	R3016	F1	A3			
C3023	B2	B2	R1033	B1	C1	R3037	E2	C3			

ASSEMBLY A23A3

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1021	C4	B1	C3024	C3	B3	R1021	B2	B1	R3012	C3	A3
C1022	C4	B1	C3025	D4	B2	R1022	A3	B1	R3021	B3	B2
C1023	C4	B1				R1023	A2	B1	R3022	B3	B2
C2021	B3	B2	CR2021	B3	B2	R2021	B3	B2	R3023	B3	B2
C2023	C4	B2	CR3011	C3	A3	R2022	B3	B2	R3024	C3	B3
C2024	C4	B2				R2023	B3	B2	R3025	C3	B3
C3011	D3	A3	L2014	B3	A1	R2024	A4	B2	R3027	C3	B3
C3013	B2	A3	L3011	D3	A3	R2025	B4	B2	R3028	D3	B3
C3014	B3	A3	L3012	C3	A3	R2026	A4	B2	R3029	C3	B3
C3020	C3	B3	L3014	B3	A3	R2027	B4	B2			
C3021	B3	B3	L3021	C3	B3	R2028	B4	B2			
C3022	C3	B3				R3010	C3	A3			
C3023	C3	B3	Q3021	C3	B3	R3011	C3	A3			

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Static Sensitive Devices
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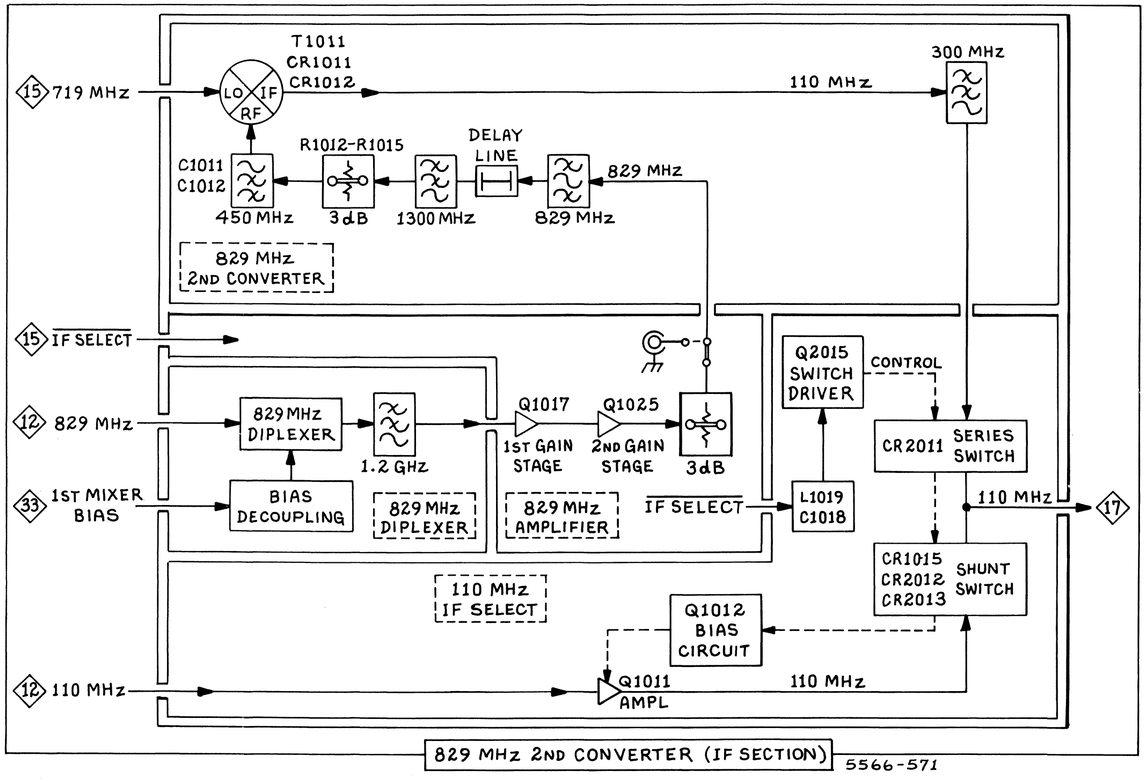
829 MHz 2ND CONVERTER (LO SECTION)



829 MHz 2nd CONV
BLOCK DIAG & CKT BD ILLUS

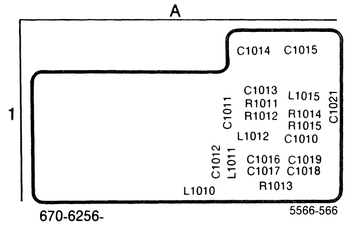


Figure 10-10. A23A4—829 MHz Diplexer circuit board.

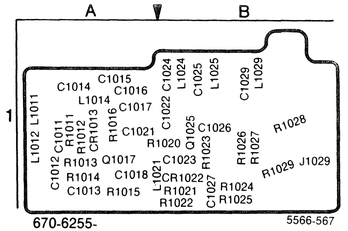
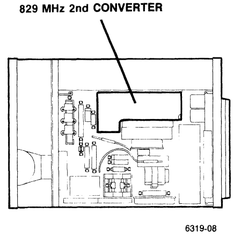


Figure 10-11. A23A5—829 MHz Amplifier circuit board.



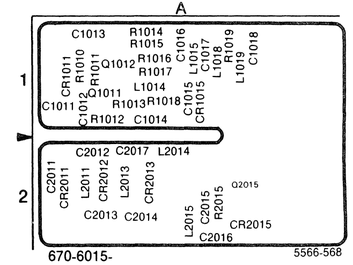


Figure 10-12. A23A6—110 MHz IF Select circuit board.

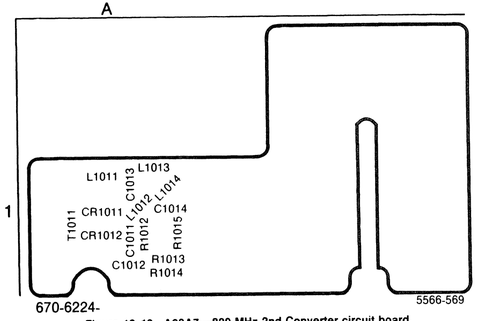


Figure 10-13. A23A7—829 MHz 2nd Converter circuit board.

829 MHz 2nd CONVERTER (IF SECTION) 16

ASSEMBLY A23A4

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1010	A2	A1	C1018	B3	A1	R1011	B2	A1
C1011	B3	A1	C1019	B3	A1	R1012	B2	A1
C1012	A3	A1	C1021	A3	A1	R1013	A3	A1
C1013	B2	A1				R1014	A2	A1
C1014	A3	A1	L1010	A3	A1	R1015	A2	A1
C1015	B3	A1	L1011	A3	A1			
C1016	B3	A1	L1012	B3	A1			
C1017	B3	A1	L1015	A3	A1			

ASSEMBLY A23A5

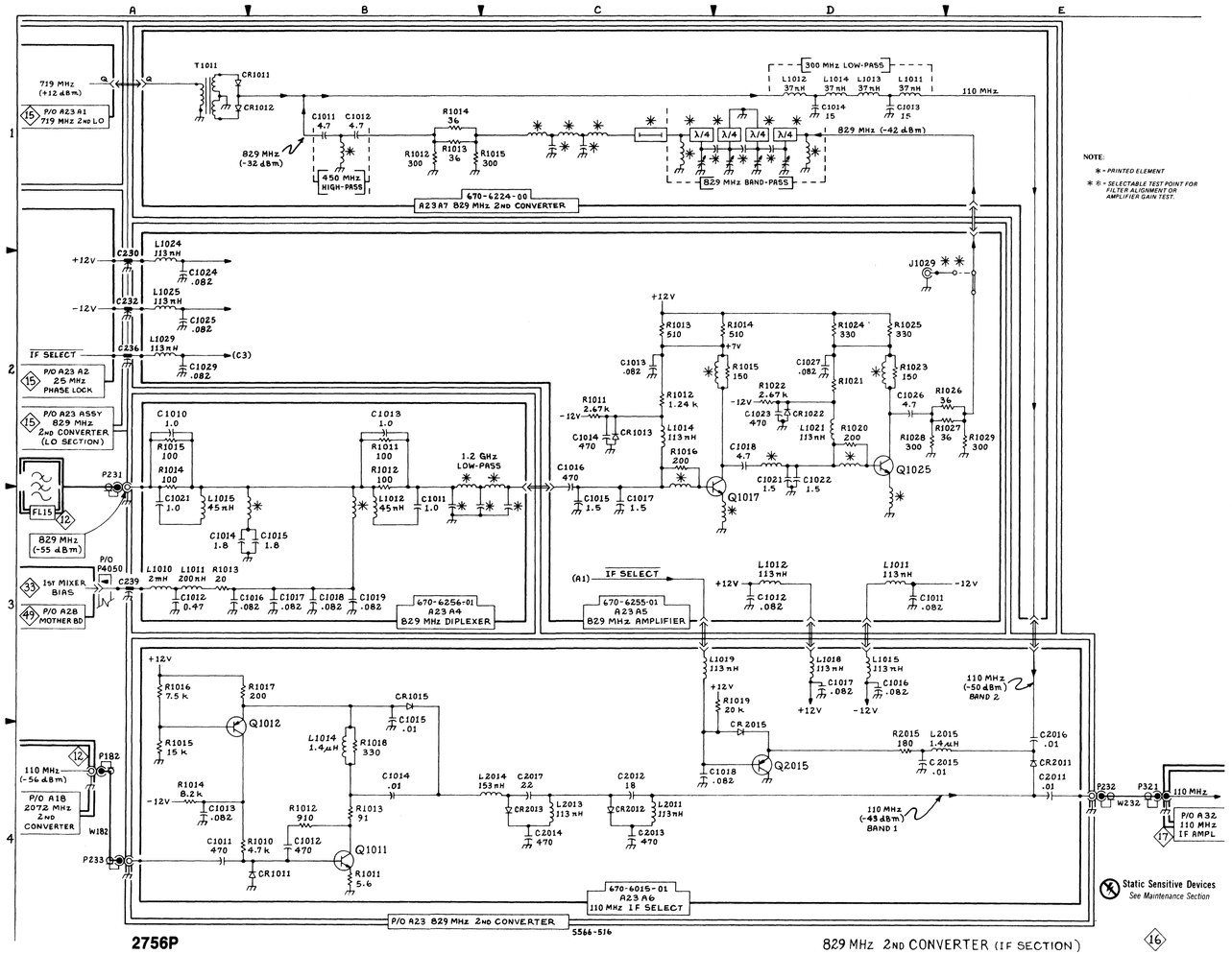
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1011	D3	A1	CR1013	C2	A1	R1012	C2	A1
C1012	D3	A1	CR1022	D2	B1	R1013	C2	A1
C1013	C2	A1				R1014	D2	A1
C1014	C2	A1	J1029	D2	B1	R1015	D2	A1
C1015	C3	A1				R1016	C2	A1
C1016	C2	A1	L1011	D3	A1	R1020	D2	B1
C1017	C3	A1	L1012	D3	A1	R1021	D2	B1
C1018	D2	A1	L1014	C2	A1	R1022	D2	B1
C1021	D2	A1	L1021	D2	A1	R1023	D2	B1
C1022	D2	B1	L1024	A1	B1	R1024	D2	B1
C1023	D2	B1	L1025	A2	B1	R1025	D2	B1
C1024	A2	B1	L1029	A2	B1	R1026	D2	B1
C1025	A2	B1				R1027	D2	B1
C1026	D2	B1	Q1017	D3	A1	R1028	D2	B1
C1027	D2	B1	Q1025	D2	B1	R1029	D2	B1
C1029	A2	B1						
			R1011	C2	A1			

ASSEMBLY A23A6

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1011	A4	A1	CR1011	B4	A1	Q1011	B4	A1
C1012	B4	A1	CR1015	B3	A1	Q1012	B4	A1
C1013	A4	A1	CR2011	E4	A2	Q2015	D4	A2
C1014	B4	A1	CR2012	C4	A2			
C1015	B3	A1	CR2013	C4	A2	R1010	B4	A1
C1016	D3	A1	CR2015	D4	A2	R1011	B4	A1
C1017	D3	A1				R1012	B4	A1
C1018	D4	A1	L1014	B4	A1	R1013	B4	A1
C2011	E4	A2	L1015	D3	A1	R1014	A4	A1
C2012	C4	A2	L1018	D3	A1	R1015	A4	A1
C2013	C4	A2	L1019	D3	A1	R1016	A3	A1
C2014	C4	A2	L2011	C4	A2	R1017	B3	A1
C2015	D4	A2	L2013	C4	A2	R1018	B4	A1
C2016	E4	A2	L2014	C4	A2	R1019	D3	A1
C2017	C4	A2	L2015	D4	A2	R2015	D4	A2

ASSEMBLY A23A7

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1011	B1	A1	L1011	D1	A1	R1014	B1	A1
C1012	B1	A1	L1012	D1	A1	R1015	C1	A1
C1013	D1	A1	L1013	D1	A1			
C1014	D1	A1	L1014	D1	A1	T1011	A1	A1
CR1011	B1	A1	R1012	B1	A1			
CR1012	B1	A1	R1013	B1	A1			



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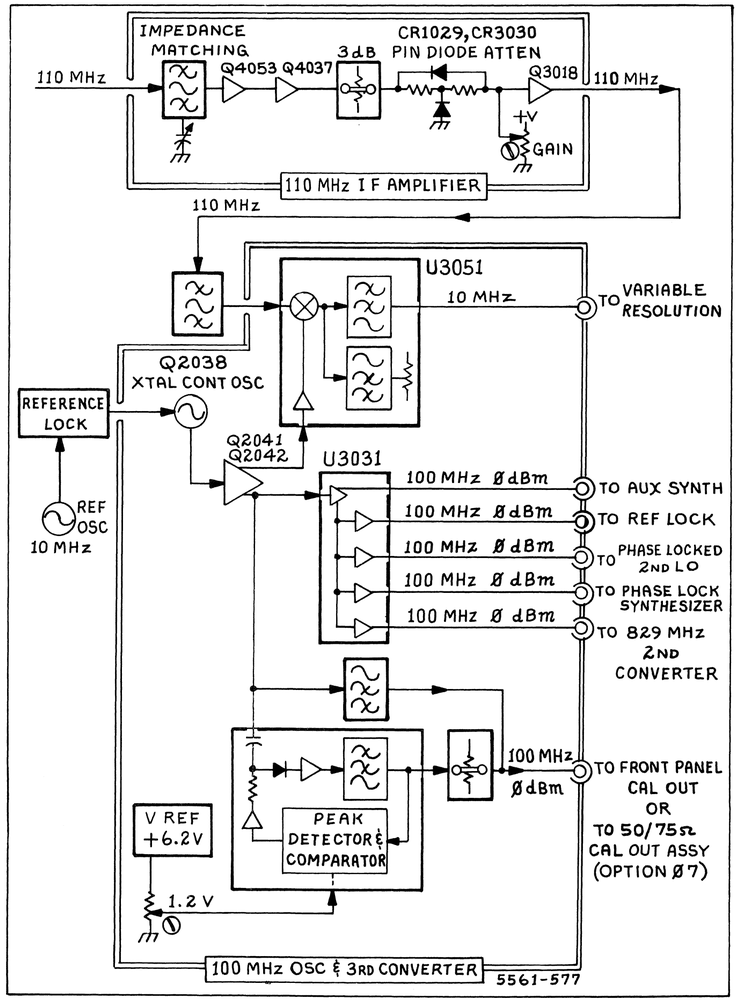
829 MHz 2ND CONVERTER (IF SECTION) 16



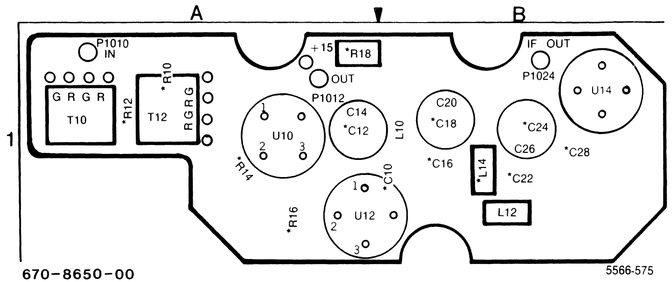
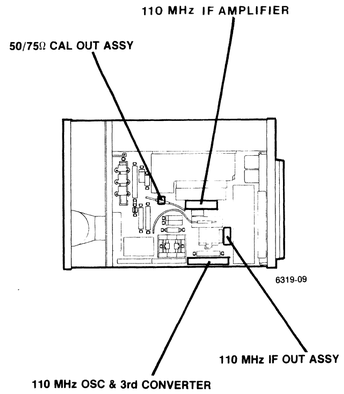


Figure 10-17. A19A1—110 MHz IF Out circuit board. (Option 42 only)

* MOUNTED ON REAR OF BOARD



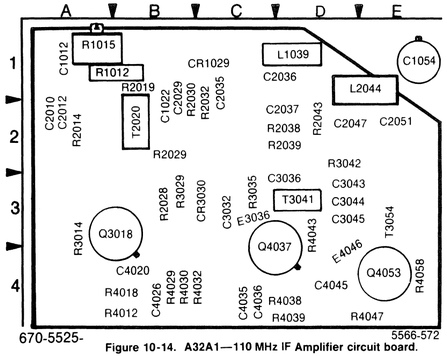


Figure 10-14. A32A1—110 MHz IF Amplifier circuit board.

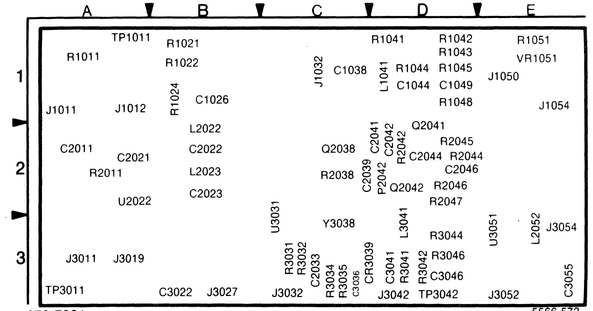


Figure 10-15. A34A1—100 MHz Osc. & 3rd Converter circuit board.

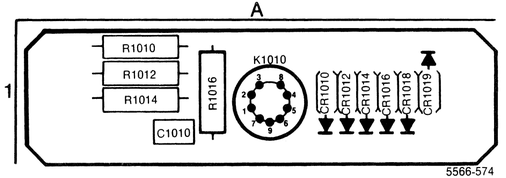


Figure 10-16. A34A3A1—50/75 Ω Cal Out circuit board. (Option 07 only)

110 MHz IF & 3rd CONVERTER

17

ASSEMBLY A32A1

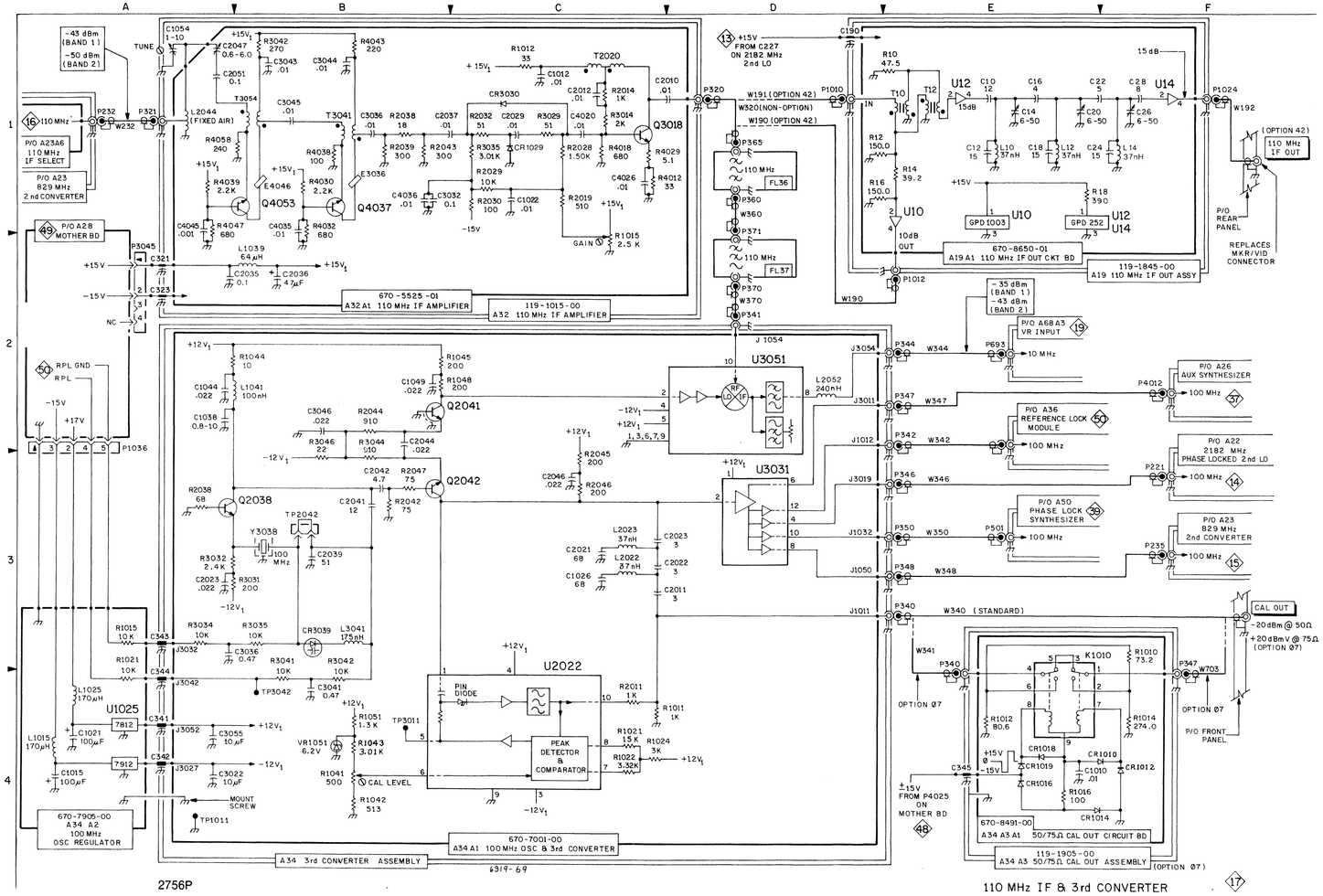
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1012	C1	A1	C4020	C1	B4	Q4037	B1	C4	R3035	C1	C3
C1022	C1	B2	C4026	C1	B4	Q4053	B1	E4	R3042	B1	D2
C1054	A1	E1	C4035	B1	C4				R4012	C1	B4
C2010	C1	A2	C4036	B1	C4	R1012	C1	A1	R4018	C1	B4
C2012	C1	A2	C4045	A1	D4	R1015	C1	A1	R4029	C1	B4
C2029	C1	B2				R2014	C1	A2	R4030	B1	B4
C2035	B2	C1	CR1029	C1	C1	R2019	C1	B1	R4032	B1	B4
C2036	B2	D1	CR3030	C1	C3	R2028	C1	B3	R4038	B1	D4
C2037	B1	D2				R2029	C1	B2	R4039	A1	D4
C2047	A1	D2	E3036	B1	C4	R2030	C1	B2	R4043	B1	D3
C2051	A1	E2	E4046	B1	D4	R2032	C1	C1	R4047	A1	D4
C3032	B1	C3				R2038	B1	D2	R4058	A1	E4
C3036	B1	D3	L1039	B2	D1	R2039	B1	D2			
C3043	B1	D3	L2044	A1	E1	R2043	B1	D2	T2020	C1	B2
C3044	B1	D3				R3014	C1	A3	T3041	B1	D3
C3045	B1	D3	Q3018	C1	A3	R3029	C1	B3	T3054	B1	E3

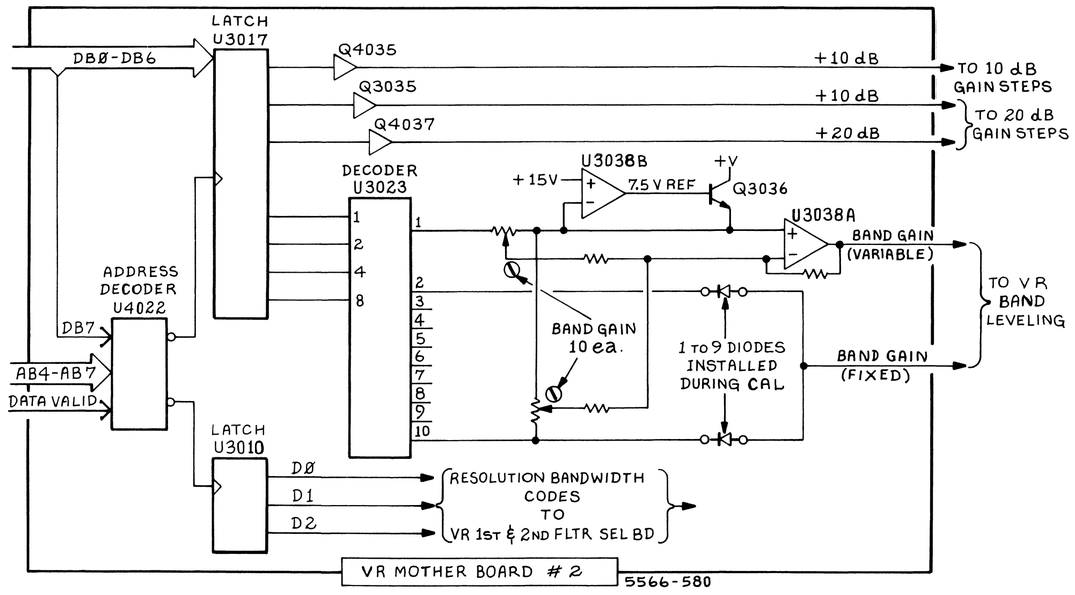
ASSEMBLY A34A1

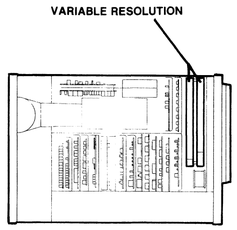
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1026	C3	B1	J1011	D3	A1	Q2042	B3	D2	R3032	B3	C3
C1038	A2	C1	J1012	D3	A1				R3034	A3	C3
C1044	A2	D1	J1032	D3	C1	R1011	C3	A1	R3035	B3	C3
C1049	B2	D1	J1050	D2	E1	R1021	C4	B1	R3041	B3	D3
C2011	C3	A2	J1054	D2	E1	R1022	C4	B1	R3042	B3	D3
C2021	C3	A2	J3011	D2	A3	R1024	C4	B1	R3044	B2	D3
C2022	C3	B2	J3019	D3	A3	R1041	B4	D1	R3046	B2	D3
C2023	C3	B2	J3027	A4	B3	R1042	B4	D1			
C2033	A3	C3	J3032	A3	C3	R1043	B4	D1	TP1011	B4	A1
C2039	B3	C2	J3042	A4	D3	R1044	B2	D1	TP2042	B3	D2
C2041	B3	D2	J3052	A4	E3	R1045	B2	D1	TP3011	B4	A3
C2042	B3	D2	J3054	D2	E3	R1048	B2	D1	TP3042	A3	D3
C2044	B2	D2				R1051	B4	E1			
C2046	C3	D2	L1041	B2	D1	R2011	C4	A2	U2022	C4	A2
C3022	A4	B3	L2022	C3	B2	R2038	A3	C2	U3031	D3	C3
C3036	B3	C3	L2023	C3	B2	R2042	B3	D2	U3051	D2	E3
C3041	B4	D3	L2052	D2	E3	R2044	B2	D2			
C3046	B2	D3	L3041	B3	D3	R2045	C3	D2	VR1051	B4	E1
C3055	A4	E3				R2046	C3	D2			
			Q2038	B3	C2	R2047	B3	D2	Y3038	B3	C3
CR3039	B3	C3	Q2041	B2	D2	R3031	B3	C3			

ASSEMBLY A34A3A1

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1010	E4	A1	CR1014	E4	A1	K1010	E3	A1	R1014	F4	A1
			CR1016	E4	A1				R1016	E4	A1
CR1010	E4	A1	CR1018	E4	A1	R1010	E3	A1			
CR1012	F4	A1	CR1019	E4	A1	R1012	E4	A1			







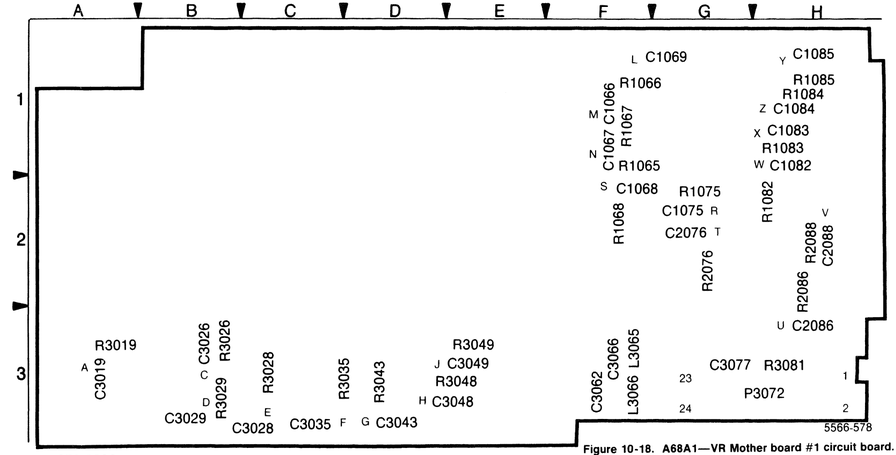


Figure 10-18. A68A1—VR Mother board #1 circuit board.

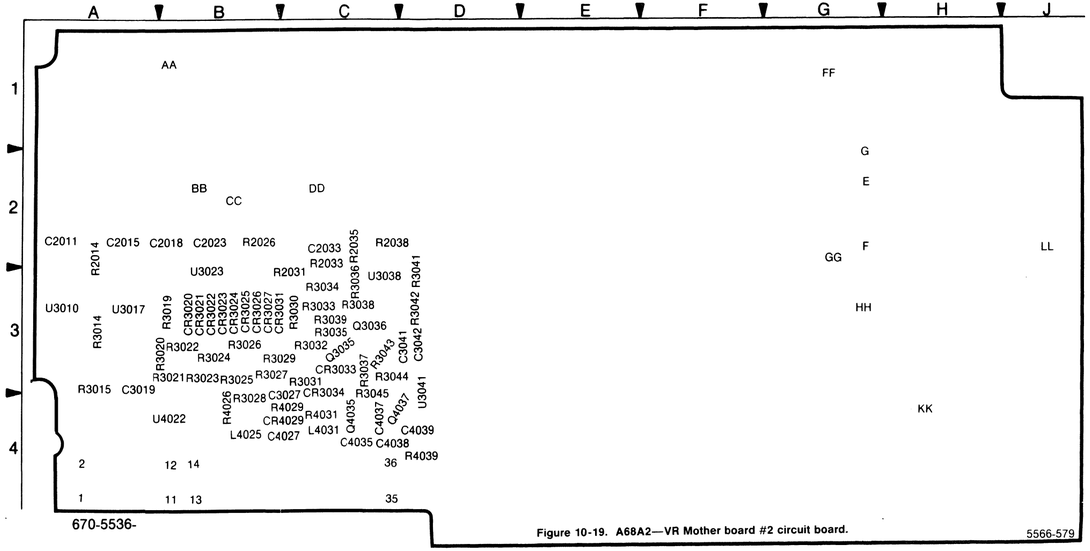


Figure 10-19. A68A2—VR Mother board #2 circuit board.

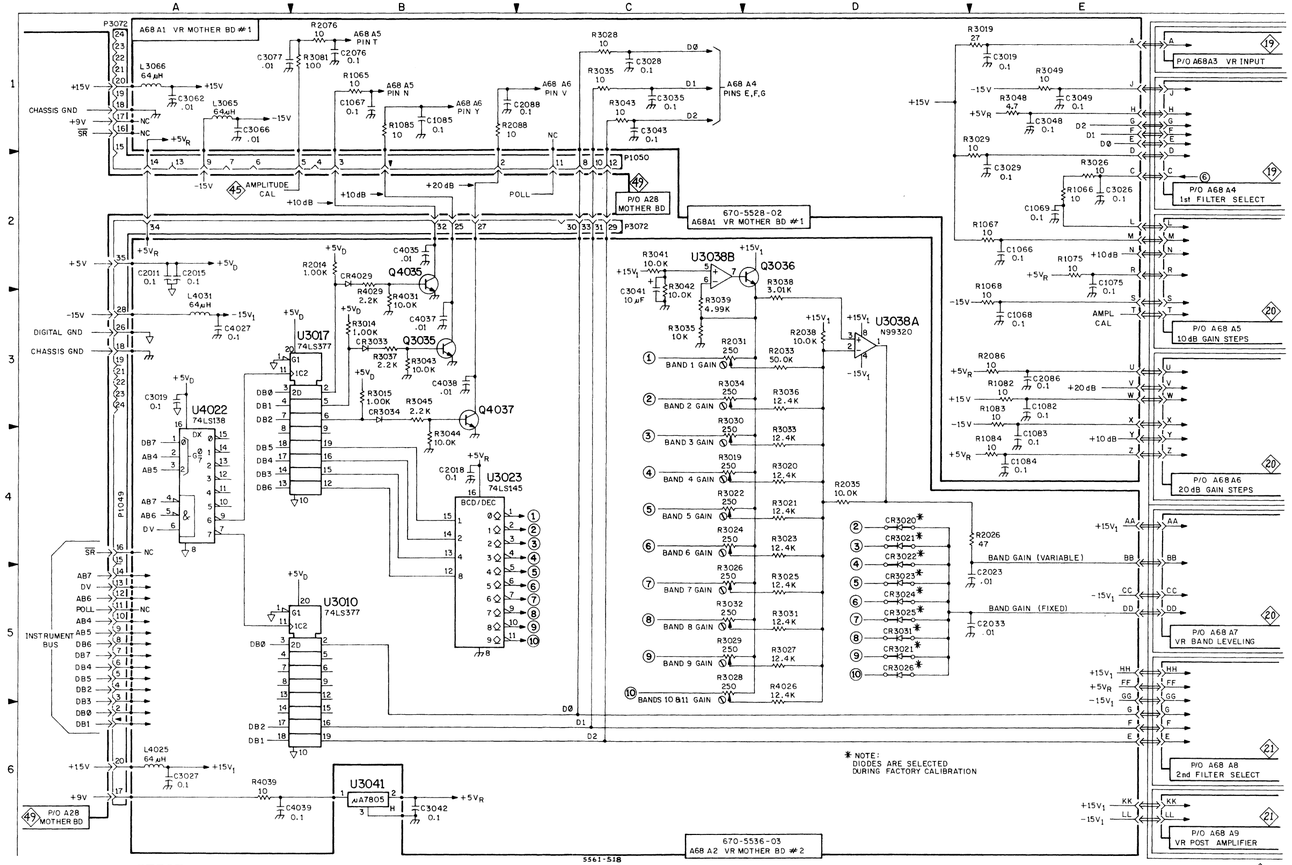
VARIABLE RESOLUTION MOTHER BOARDS

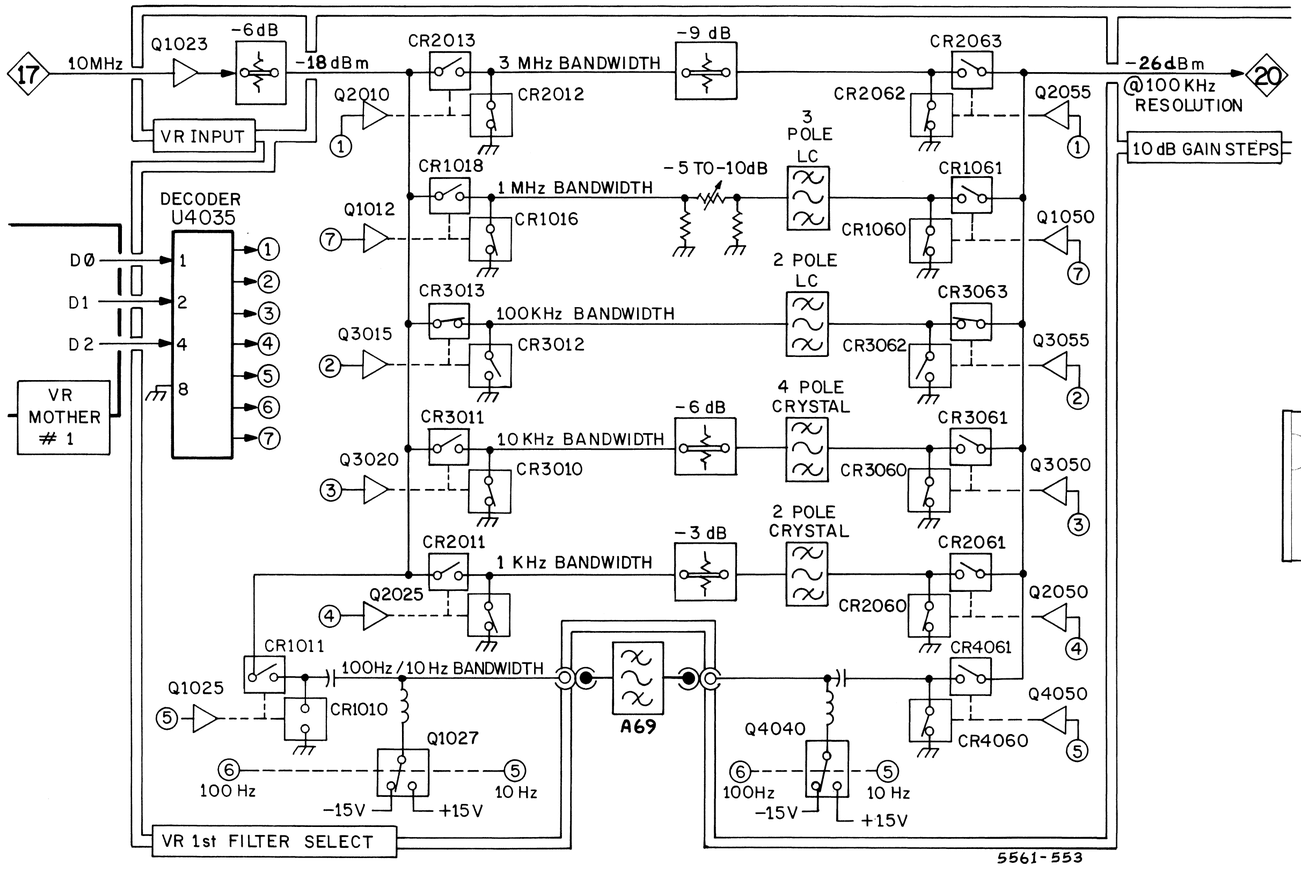
ASSEMBLY A68A1

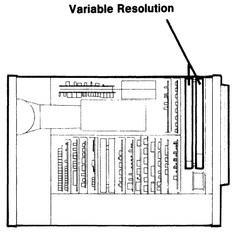
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1066	D1	F1	C3035	D1	C3	R1075	E1	G2
C1067	C1	F1	C3043	D1	D3	R1082	F2	H2
C1068	D1	F2	C3048	E1	E3	R1083	F2	H1
C1068	E1	F2	C3049	E1	E3	R1084	D1	H1
C1069	E1	G1	C3062	A1	F3	R1085	C1	H1
C1075	E1	G2	C3066	B1	F3	R2076	C1	G2
C1082	F2	H1	C3077	C1	G3	R2086	D1	H2
C1083	F2	H1				R2088	C1	H2
C1084	D2	H1	L3065	A1	F3	R3019	F1	A3
C1085	C1	H1	L3066	A1	F3	R3026	F2	B3
C2076	C1	G2				R3028	C1	C3
C2086	E3	H3	P3072	A1	H3	R3029	E1	B3
C2088	C1	H2	P3072	C2	H3	R3035	D1	C3
C3019	F1	A3				R3043	D1	D3
C3026	E1	B3	R1065	C1	F1	R3048	E1	E3
C3026	E1	B3	R1066	F1	F1	R3049	E1	E3
C3028	D1	C3	R1067	D1	F1	R3081	C1	H3
C3029	E1	B3	R1068	D1	F2			

ASSEMBLY A68A2

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C2011	A2	A2	L4025	A3	B4	R3031	E3	C3
C2015	B2	A2	L4031	A2	C4	R3032	E4	C3
C2018	C3	A2				R3033	E3	C3
C2023	E2	B2	Q3035	C2	C3	R3034	E2	C3
C2033	E5	C2	Q3036	D2	C3	R3035	D2	C3
C3019	A2	A3	Q4035	C2	C4	R3036	E2	C3
C3027	A3	B4	Q4037	C3	C4	R3037	C2	C3
C3041	D2	C3				R3038	E2	C3
C3042	B6	D3	R2014	B2	A2	R3039	D2	C3
C4027	A2	B4	R2026	E2	B2	R3041	D2	D3
C4035	C2	C4	R2031	E2	B3	R3042	D2	D3
C4037	C2	C4	R2033	E2	C3	R3043	C2	C3
C4038	C2	C4	R2035	E2	C2	R3044	C3	C3
C4039	B3	C4	R2038	E2	C2	R3045	C2	C4
			R3014	B2	A3	R4026	E4	B4
CR3020	E2	B3	R3015	C2	A3	R4029	C2	B4
CR3021	E3	B3	R3019	E3	A3	R4031	C2	C4
CR3022	E3	B3	R3020	E3	A3	R4039	B3	C4
CR3023	E3	B3	R3021	E3	B3			
CR3024	E3	B3	R3022	E3	B3	U3010	B3	A3
CR3025	E3	B3	R3023	E3	B3	U3017	B2	A3
CR3026	E3	B3	R3024	E3	B3	U3023	C3	B3
CR3027	E3	B3	R3025	E3	B3	U3038A	E2	C3
CR3031	E3	B3	R3026	E3	B3	U3038B	D2	C3
CR3033	B2	C3	R3027	E4	B3	U3041	B6	D4
CR3034	C3	C4	R3028	E4	B4	U4022	B3	B4
CR4029	B2	B4	R3029	E4	B3			
			R3030	E3	B3			







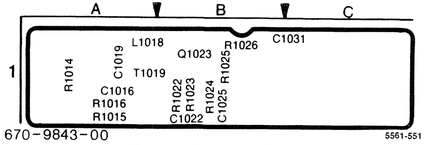


Figure 10-20. A68A3—VR Input circuit board.

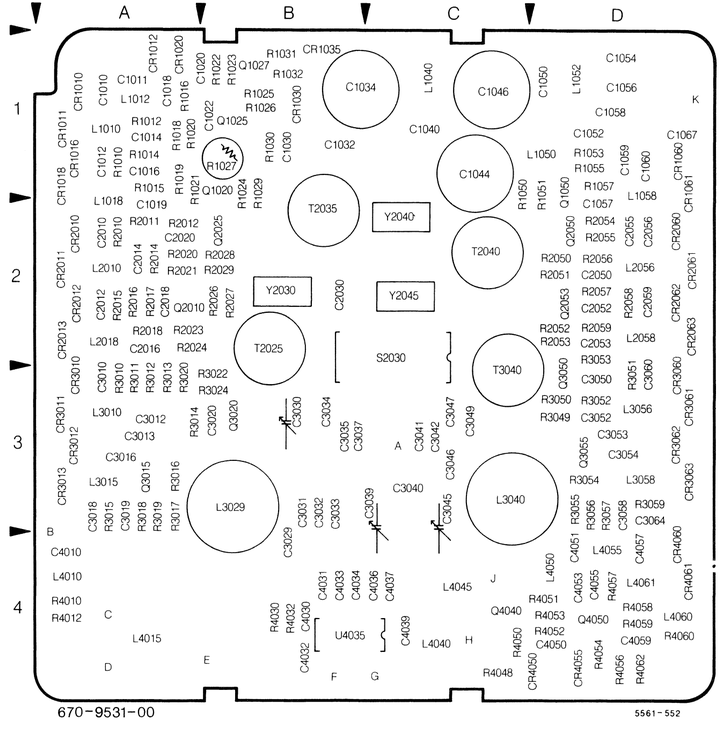


Figure 10-21. A68A4—VR 1st Filter Select circuit board.

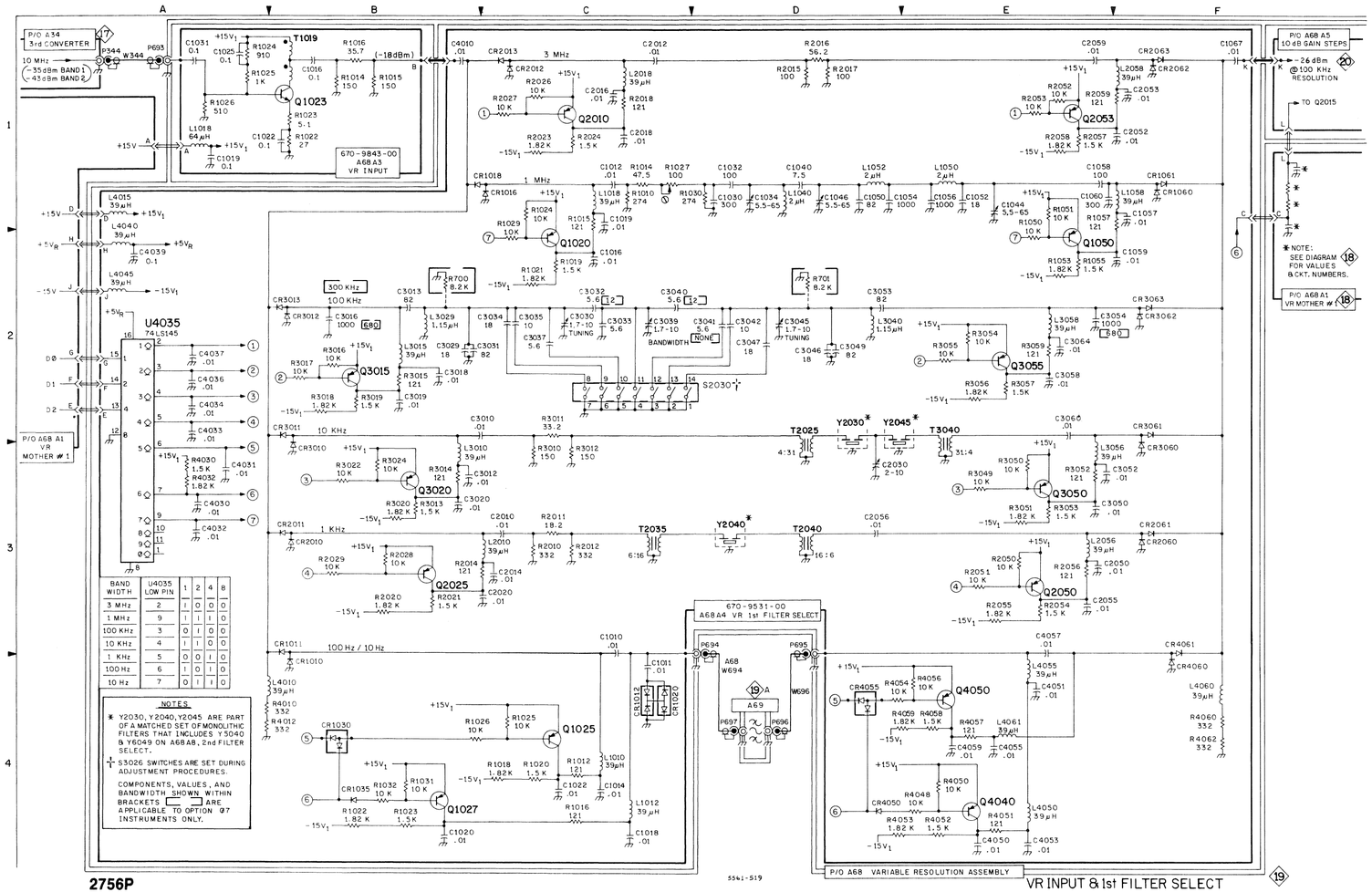
VR INPUT & 1st FILTER SELECT

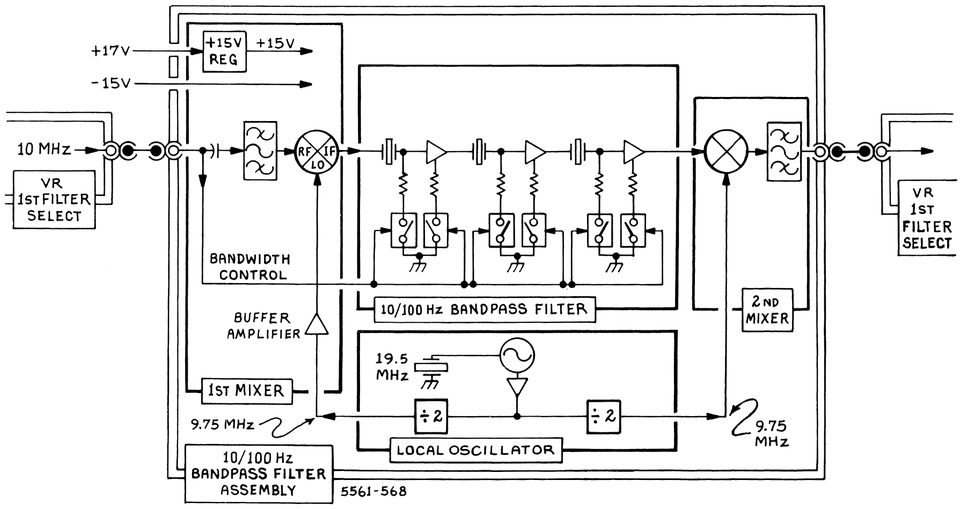
EMBLY A68A3

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1016	B1	A1	Q1023	B1	B1	R1024	A1	B1
C1019	A1	A1				R1025	A1	B1
C1022	B1	B1	R1014	B1	A1	R1026	A1	B1
C1025	A1	B1	R1015	B1	A1			
C1031	A1	C1	R1016	B1	A1	T1019	B1	A1
			R1022	B1	A1			
L1018	A1	A1	R1023	B1	B1			

ASSEMBLY A68A4

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1010	C3	A1	C3058	E2	D3	L3015	B2	A3	R2024	C1	A2
C1011	C4	A1	C3060	E2	D3	L3029	B2	B3	R2026	C1	B2
C1012	C1	A1	C3064	E2	D3	L3040	D2	C3	R2027	C1	B2
C1014	C4	A1	C4010	B1	A4	L3056	E3	D3	R2028	B3	B2
C1016	C2	A1	C4030	A3	B4	L3058	E2	D3	R2029	B3	B2
C1018	C4	A1	C4031	A3	B4	L4010	B4	A4	R2050	E3	D2
C1019	C1	A2	C4032	A3	B4	L4015	A1	A4	R2051	E3	D2
C1020	B4	A1	C4033	A2	B4	L4040	A2	C4	R2052	E1	D2
C1022	C4	B1	C4034	A2	B4	L4045	A2	C4	R2053	E1	D2
C1030	D1	B1	C4036	A2	C4	L4050	E4	D4	R2054	E3	D2
C1032	D1	B1	C4037	A2	C4	L4055	E4	D4	R2055	E3	D2
C1034	D1	B1	C4039	A2	C4	L4060	F4	D4	R2056	E3	D2
C1040	D1	C1	C4050	E4	D4	L4061	E4	D4	R2057	E1	D2
C1044	E1	C1	C4051	E4	D4				R2058	E1	D2
C1046	D1	C1	C4053	E4	D4	Q1020	C2	B1	R2059	F1	D2
C1050	D1	D1	C4055	E4	D4	Q1025	C4	B1	R3010	C3	A3
C1052	E1	D1	C4057	E3	D4	Q1027	B4	B1	R3011	C2	A3
C1054	D1	D1	C4059	E4	D4	Q1050	E2	D1	R3012	C3	A3
C1056	E1	D1				Q2010	C1	A2	R3013	B3	A3
C1057	F1	D2	CR1010	B4	A1	Q2025	B3	B2	R3014	B3	A3
C1058	E1	D1	CR1011	B3	A1	Q2050	E3	D2	R3015	B2	A3
C1059	F2	D1	CR1012	C4		Q2053	E1	D2	R3016	B2	A3
C1060	E1	D1	CR1016	C1	A1	Q3015	B2	A3	R3017	B2	A3
C1067	F1	D1	CR1018	B1	A1	Q3020	B3	B3	R3018	B2	A3
C2010	C3	A2	CR1020	C4	A1	Q3050	E3	D3	R3019	B2	A3
C2012	C1	A2	CR1030	B4	B1	Q3055	E2	D3	R3020	B3	A3
C2014	C3	A2	CR1035	B4	B1	Q4040	E4	C4	R3022	B3	B3
C2016	C1	A2	CR1060	F1	D1	Q4050	E4	D4	R3024	B3	B3
C2018	C1	A2	CR1061	F1	D1				R3049	E3	D3
C2020	C3	A2	CR2010	B3	A2	R1010	C1	A1	R3050	E3	D3
C2030	D3	B2	CR2011	B3	A2	R1012	C4	A1	R3051	E3	D3
C2050	E3	D2	CR2012	C1	A2	R1014	C1	A1	R3052	E3	D3
C2052	F1	D2	CR2013	C1	A2	R1015	C1	A1	R3053	E3	D3
C2053	F1	D2	CR2060	F3	D2	R1016	C4	A1	R3054	E2	D3
C2055	E3	D2	CR2061	F3	D2	R1018	C4	A1	R3055	E2	D3
C2056	D3	D2	CR2062	F1	D2	R1019	C2	A1	R3056	E2	D3
C2059	E1	D2	CR2063	F1	D2	R1020	C4	A1	R3057	E2	D3
C3010	C2	A3	CR3010	B3	A3	R1021	C2	A1	R3059	E2	D3
C3012	B3	A3	CR3011	B2	A3	R1022	B4	B1	R4010	B4	A4
C3013	B2	A3	CR3012	B2	A3	R1023	B4	B1	R4012	B4	A4
C3016	B2	A3	CR3013	B2	A3	R1024	C1	B1	R4030	A3	B4
C3018	B2	A3	CR3060	F3	D3	R1025	C4	B1	R4032	A3	B4
C3019	B2	A3	CR3061	F2	D3	R1026	B4	B1	R4048	E4	C4
C3020	B3	B3	CR3062	F2	D3	R1027	C1	B1	R4050	E4	C4
C3029	B2	B4	CR3063	F2	D3				R4051	E4	D4
C3030	C2	B3	CR4050	D4	D4	R1029	C2	B1	R4052	E4	D4
C3031	B2	B3	CR4055	D4	D4	R1030	D1	B1	R4053	D4	D4
C3032	C2	B3	CR4060	F4	D4	R1031	B4	B1	R4054	D4	D4
C3033	C2	B3	CR4061	F3	D4	R1032	B4	B1	R4056	E4	D4
C3034	C2	B3				R1050	E2	C1	R4057	E4	D4
C3035	C2	B3	L1010	C4	A1	R1051	E1	D1	R4058	E4	D4
C3037	C2	B3	L1012	C4	A1	R1053	E2	D1	R4059	E4	D4
C3039	C2	C3	L1018	C1	A2	R1055	E2	D1	R4060	F4	D4
C3040	C2	C3	L1040	D1	C1	R1057	F1	D1	R4062	F4	D4
C3041	D2	C3	L1050	E1	D1	R2010	C3	A2			
C3042	D2	C3	L1052	D1	D1	R2011	C3	A2	S2030	C2	C2
C3045	D2	C3	L1058	F1	D1	R2012	C3	A2			
C3046	D2	C3	L2010	C3	A2	R2014	C3	A2	T2025	D2	
C3047	D2	C3	L2018	C1	A2	R2015	D1	A2	T2035	C3	B2
C3049	D2	C3	L2056	E3	D2	R2016	D1	A2	T2040	D3	C2
C3050	E3	D3	L2058	F1	D2	R2017	D1	A2	T3040	E2	C3
C3052	E3	D3	L3010	B3	A3	R2018	C1	A2			
C3053	D2	D3				R2020	B3	A2	U4035	A2	B4
C3054	E2	D3	Y2030	D2	B2	R2021	B3	A2			
			Y2040	D3	C2	R2023	C1	A2			
			Y2045	D2	C2						





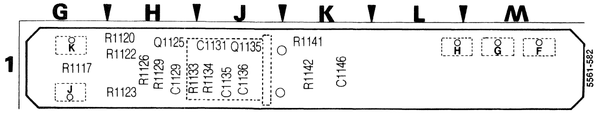
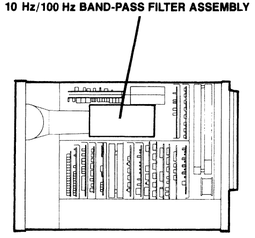


Fig. 10-28 A69A4 — Local Oscillator circuit board (rear)



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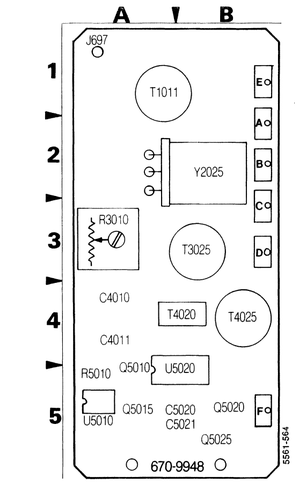


Fig. 10-22 A69A1 — 1st Mixer circuit board (front)

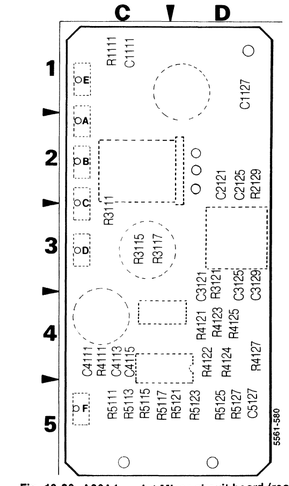


Fig. 10-26 A69A1 — 1st Mixer circuit board (rear)

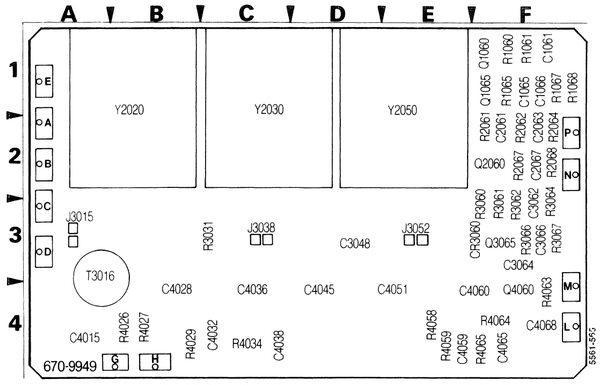


Fig. 10-23 A69A2 — 10 Hz/100 Hz Bandpass Filter circuit board (front)

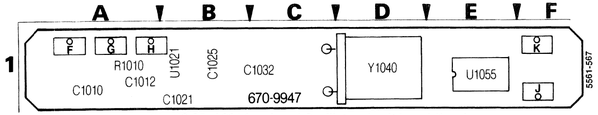


Fig. 10-25 A69A4 — Local Oscillator circuit board (front)

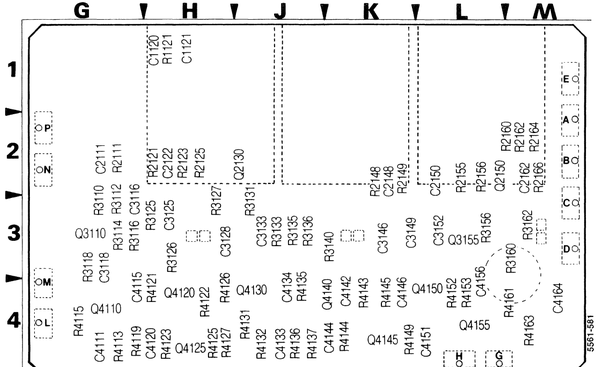


Fig. 10-27 A69A2 — 10 Hz/100 Hz Bandpass Filter circuit board (rear)

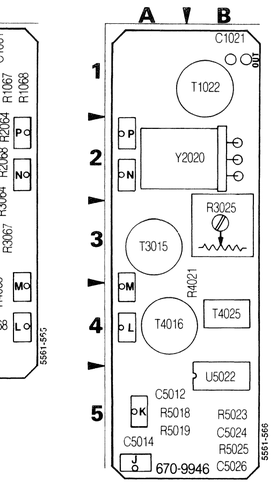


Fig. 10-24 A69A3 — 2nd Mixer circuit board

VR 10 Hz/100 Hz BANDPASS FILTER

ASSEMBLY A69A1

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1111	A4	C1
C1127	A2	D1
C2121	A3	D2
C2125	A3	D2
C3121	A3	D3
C3125	A3	D3
C3129	A3	D3
C4010	A1	A4
C4011	B1	A4
C4111	A5	C4
C4113	A4	C4
C4115	A2	C4
C5020	A3	B5
C5021	B3	B5
C5127	A1	D5
Q5010	B1	A5
Q5015	B1	A5
Q5020	A4	B5
Q5025	B4	B5
R1111	A4	C1
R2129	A2	D2
R3010	A3	A3
R3111	A2	C3
R3115	A2	C3
R3117	A2	C3
R3121	A3	D3
R4111	A5	C4
R4121	A3	D4
R4122	A3	D4
R4124	A3	D4
R4125	A3	D4
R4127	A1	D4
R5010	B1	A5
R5111	B4	C5
R5113	B4	C5
R5115	B4	C5
R5117	B5	C5
R5121	A2	D5
R5123	A2	D5
R5125	A1	D5
R5127	A1	D5
T1011	A2	A1
T3025	A2	B3
T4020	A2	B4
T4025	B2	B4
U5010	A1	A5
U5020	B2	B5
Y2025	A2	B2

ASSEMBLY A69A2

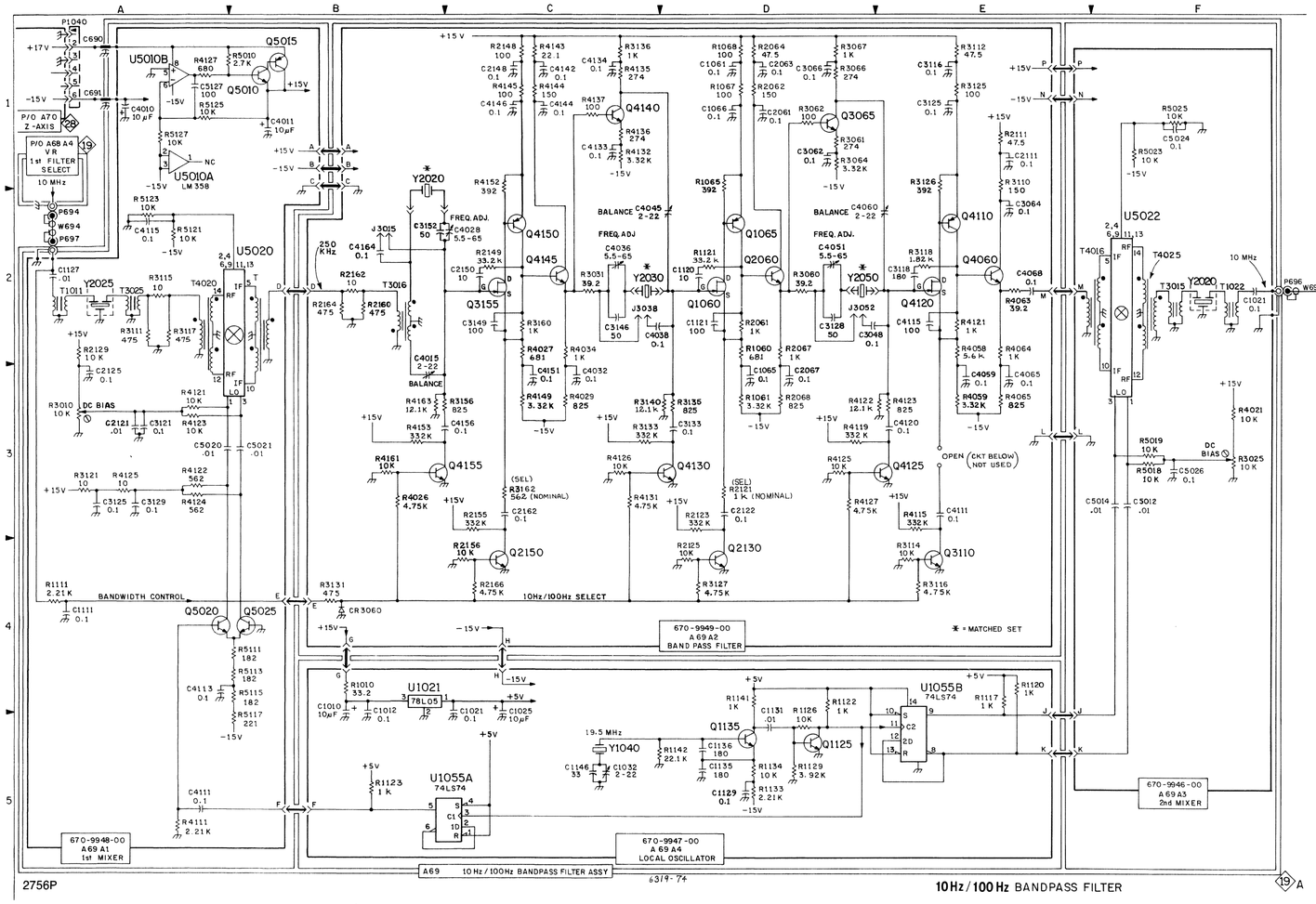
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1061	D1	F1
C1065	D3	F1
C1066	D1	F1
C1120	D2	H1
C1121	D2	H1
C2061	D1	F2
C2063	D1	F2
C2067	D1	F2
C2111	E1	G2
C2122	D3	H2
C2148	C1	K2
C2150	C2	L2
C3048	D2	D3
C3062	D1	F3
C3064	E2	F3
C3066	D1	F3
C3116	E1	G3
C3118	E2	G3
C3125	E1	H3
C3128	D2	H3
C3133	D3	J3
C3146	C2	K3
C3149	C2	K3
C3152	B2	L3
C4015	B3	A4
C4028	C2	B4
C4032	C3	C4
C4036	C2	C4
C4038	C2	C4
C4045	D2	D4
C4051	D2	E4
C4059	E3	E4
C4060	E2	F4
C4065	E3	F4
C4068	E2	F4
C4111	E3	G4
C4115	E2	G4
C4120	E3	H4
C4133	C1	J4
C4134	C1	J4
C4142	C1	K4
C4144	C1	K4
C4146	C1	K4
C4151	C3	L4
C4156	C3	L4
C4164	B2	M4
CR3060	B4	F3
J3015	B2	A3
J3038	C2	C3
J3052	D2	E3
Q1060	D2	F1
Q1065	D2	F1
Q2060	D2	F2
Q2130	D4	J2
Q2150	C4	L2
Q3065	D1	F3
Q3110	E4	G3
Q3155	C2	L3
Q4060	E2	F4
Q4110	E2	G4
Q4120	E2	H4
Q4125	E3	H4
Q4130	D3	J4
Q4140	C1	K4
Q4145	C2	K4
Q4150	C2	L4
Q4155	C3	L4
R1060	D2	F1
R1061	D3	F1
R1065	D1	F1
R1067	D1	F1
R1068	D1	F1
R1121	D2	H1
R2061	D1	F2
R2062	D1	F2
R2064	D1	F2
R2067	D1	F2
R2125	D4	G2
R2148	C1	K2
R2149	C2	K2
R2155	C3	L2
R2156	C4	L2
R2160	B2	M2
R2162	B2	M2
R2164	B2	M2
R2166	C4	M2
R3031	C2	C3
R3060	D2	F3
R3061	D1	F3
R3062	D1	F3
R3064	D1	F3
R3066	D1	F3
R3067	D1	F3
R3110	E1	G3
R3112	E1	G3
R3114	E4	G3
R3116	E4	G3
R3118	E2	G3
R3125	E1	H3
R3126	E1	H3
R3127	D4	H3
R3131	B4	J3
R3133	C3	J3
R3135	D3	J3
R3136	C1	J3
R3140	D3	K3
R3156	C3	L3
R3160	C2	M3
R3162	C3	M3
R4026	B3	B4
R4027	C2	B4
R4029	C3	B4
R4034	C2	C4
R4058	E2	E4
R4059	E3	E4
R4063	E2	F4
R4064	E2	F4
R4065	E3	F4
R4113	E3	G4
R4115	E3	G4
R4119	D3	G4
R4122	E3	H4
R4123	E3	H4
R4125	D3	H4
R4126	C3	H4
R4127	D3	H4
R4131	C3	J4
R4132	C1	J4
R4135	C1	J4
R4136	C1	J4
R4137	C1	J4
R4143	C1	K4
R4144	C1	K4
R4145	C1	K4
R4149	C3	K4
R4152	C1	L4
R4153	B3	L4
R4161	B3	M4
R4163	B3	M4
T3016	B2	A3
Y2020	B2	B2
Y2030	C2	C2
Y2050	D2	E2

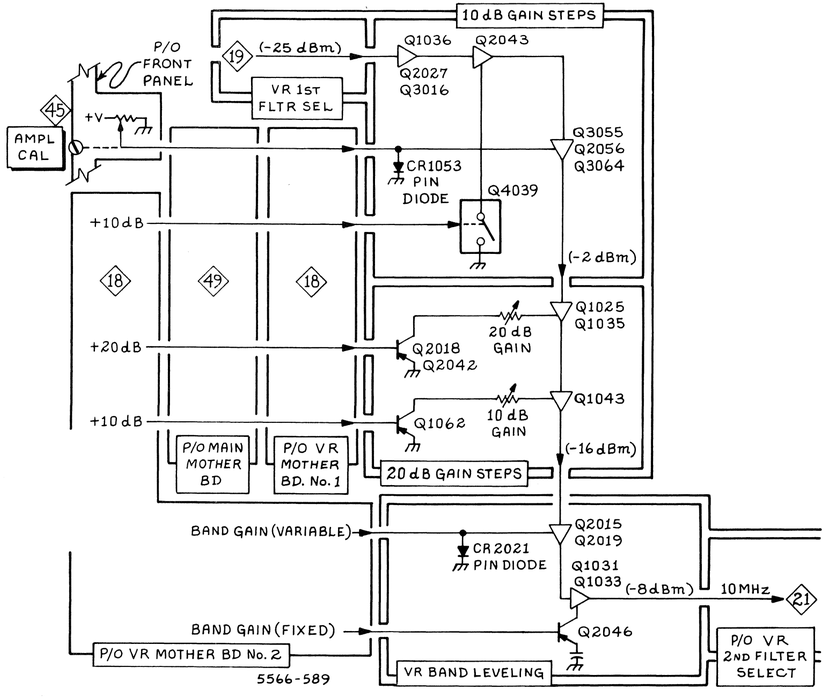
ASSEMBLY A69A3

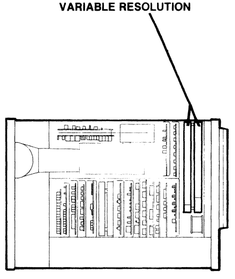
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1021	F2	B1
C5012	F3	A5
C5014	F3	A5
C5024	F1	B5
C5026	F3	B5
R3025	F3	B3
R4021	F3	B4
R5018	F3	A5
R5019	F3	A5
R5023	F1	B5
R5025	F1	B5
T1022	F2	B1
T3015	F2	A3
T4016	F2	A4
T4025	F2	B4
U5022	F2	B5
Y2020	F2	B2

ASSEMBLY A69A4

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1010	B4	A1
C1012	B4	A1
C1021	C4	B1
C1025	C4	B1
C1129	D5	H1
C1032	C5	C1
C1131	D5	J1
C1135	D5	J1
C1136	D5	J1
C1146	C5	K1
Q1125	D5	H1
Q1135	D5	J1
R1010	B4	A1
R1117	E4	G1
R1120	E4	H1
R1122	D4	H1
R1123	D4	H1
R1126	D5	H1
R1129	D5	H1
R1133	D5	J1
R1134	D5	J1
R1141	D4	K1
R1142	D5	K1
U1021	B4	B1
U1055A	C5	E1
U1055B	E5	E1
Y1040	C5	D1


A
B
C
D
E
F
1
2
3
4
5
+17V
-15V
+15V
P1040
C690
C691
U5010B
Q5015
Q5010
R5010 2.7K
R4127 680
C5127 100
R5125 10K
C4011 10µF
C4010 10µF
U5010A LM 358
R5127 10K
R5123 10K
C4115 0.1
R5121 10K
P/O A70 Z-AXIS
P/O A68 A4 VR 1st FILTER SELECT
10 MHz
P694
W694
P697
C1127 .01
U5020
Y2025
T1011
T3025
T4020
R3115 10
R3117 475
R3111 475
C2125 0.1
R2129 10 K
R3010 10 K
DC BIAS
C2121 .01
C3121 0.1
R4121 10K
R4123 10 K
C5020 .01
C5021 .01
R3121 10
R4125 10
C3125 0.1
C3129 0.1
R4122 562
R4124 562
R1111 2.21 K
BANDWIDTH CONTROL
C1111 0.1
Q5020
Q5025
R5111 182
R5113 182
R5115 182
R5117 221
C4113 0.1
C4111 0.1
R4111 2.21 K
670-9948-00 A69 A1 1st MIXER
Y2020
FREQ. ADJ. 5.5-65
C4028 2-22
J3015
C3152 50
250 KHz
C4164 0.1
R2162 10
T3016
R2164 475
R2160 475
C4015 2-22
BALANCE
R3160 1K
R4027 681
C4151 0.1
R4149 3.32 K
R4029 825
R4163 12.1K
R3156 825
R4153 332 K
C4156 0.1
R4161 10K
Q4155
R4026 4.75K
R2155 332K
R3162 562 (NOMINAL)
C2162 0.1
R2156 10 K
Q2150
R2166 4.75 K
R3131 475
CR3060
10Hz/100Hz SELECT
R2148 100
R4143 22.1
C2148 0.1
C4142 0.1
R4145 100
R4144 150
C4146 0.1
C4144 0.1
C4134 0.1
R3136 1K
R4135 274
R4137 100
Q4140
R4136 274
C4133 0.1
R4132 3.32K
BALANCE C4045 2-22
FREQ. ADJ
C4036 5.5-65
Y2030
J3038
C3146 50
C4038 0.1
R3031 39.2
R4152 392
Q4150
Q4145
C2150 10
Q3155
C3149 100
R4034 1K
C4032 0.1
R3140 12.1K
R3135 825
R3133 332 K
C3133 0.1
R4126 10K
Q4130
R4131 4.75K
R2123 332 K
C2122 0.1
R2125 10K
Q2130
R3127 4.75 K
R1065 392
Q1065
Q2060
R1121 33.2 K
R1120 10
Q1060
R1068 100
R2064 47.5
C1061 0.1
C2063 0.1
R1067 100
R2062 150
C1066 0.1
C2061 0.1
R3062 100
Q3065
R3061 274
C3062 0.1
R3064 3.32K
BALANCE C4060 2-22
FREQ. ADJ.
C4051 5.5-65
Y2050
J3052
C3128 50
C3048 0.1
R3080 39.2
R2061 1K
R1060 681
C1065 0.1
R2067 1K
C2067 0.1
R1061 3.32 K
R2068 825
R4122 12.1K
R4123 825
R4119 332 K
C4120 0.1
R4125 10K
Q4125
R4127 4.75K
R4115 332 K
C4111 0.1
R3114 10K
Q3110
R3116 4.75 K
OPEN (CKT BELOW NOT USED)
R3126 392
Q4110
Q4060
R3118 1.82 K
C3118 180
C4115 100
R4121 1K
R4058 5.6 K
R4064 1K
C4059 0.1
R4059 3.32K
R4065 825
C4068 0.1
R4063 39.2
R3112 47.5
C3116 0.1
R3125 100
C3125 0.1
R2111 47.5
C2111 0.1
R3110 150
C3064 0.1
C3066 0.1
R3067 1K
R3066 274
C4060 2-22
C4065 0.1
C4066 0.1
C4061 0.1
C4062 0.1
C4063 0.1
C4064 0.1
C4067 0.1
C4068 0.1
C4069 0.1
C4070 0.1
C4071 0.1
C4072 0.1
C4073 0.1
C4074 0.1
C4075 0.1
C4076 0.1
C4077 0.1
C4078 0.1
C4079 0.1
C4080 0.1
C4081 0.1
C4082 0.1
C4083 0.1
C4084 0.1
C4085 0.1
C4086 0.1





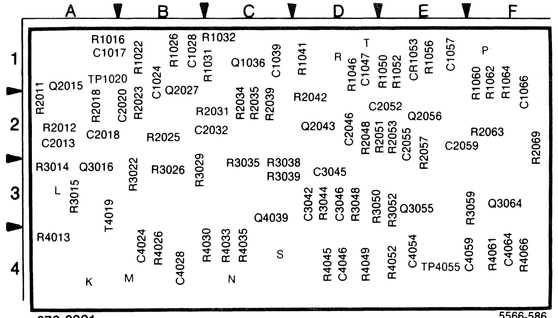


Fig. 10-29. A68A5—VR 10dB Gain Steps circuit board.

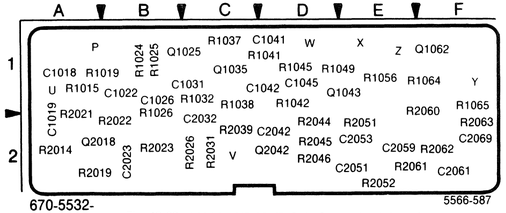


Fig. 10-30. A68A6—VR 20 dB Gain Steps circuit board.

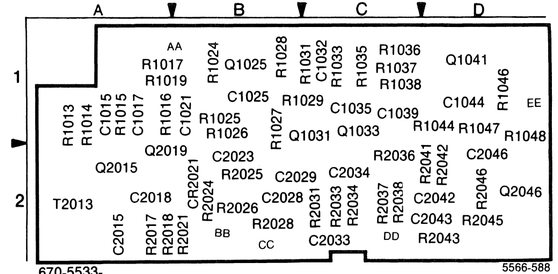
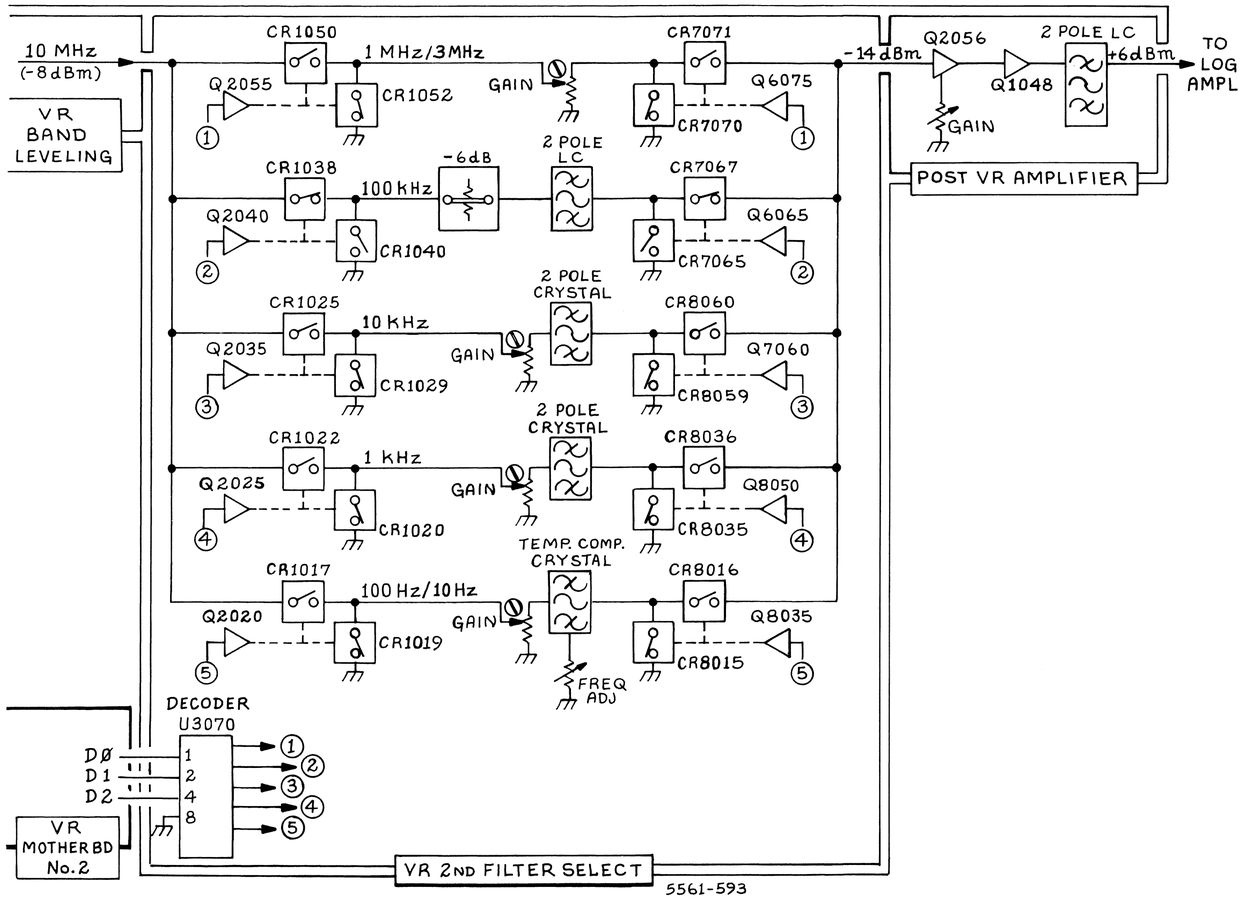
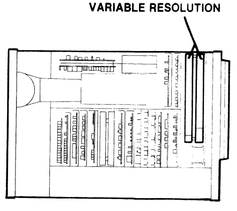


Fig. 10-31. A68A7—VR Band Leveling circuit board.





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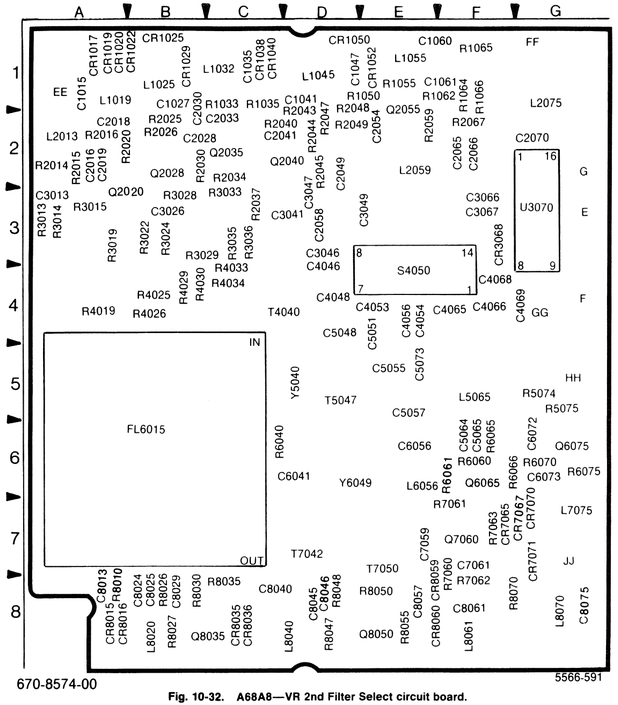


Fig. 10-32. A68A8—VR 2nd Filter Select circuit board.

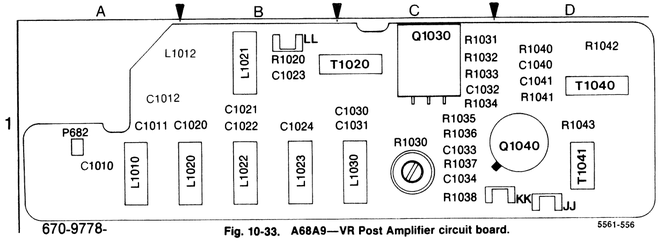
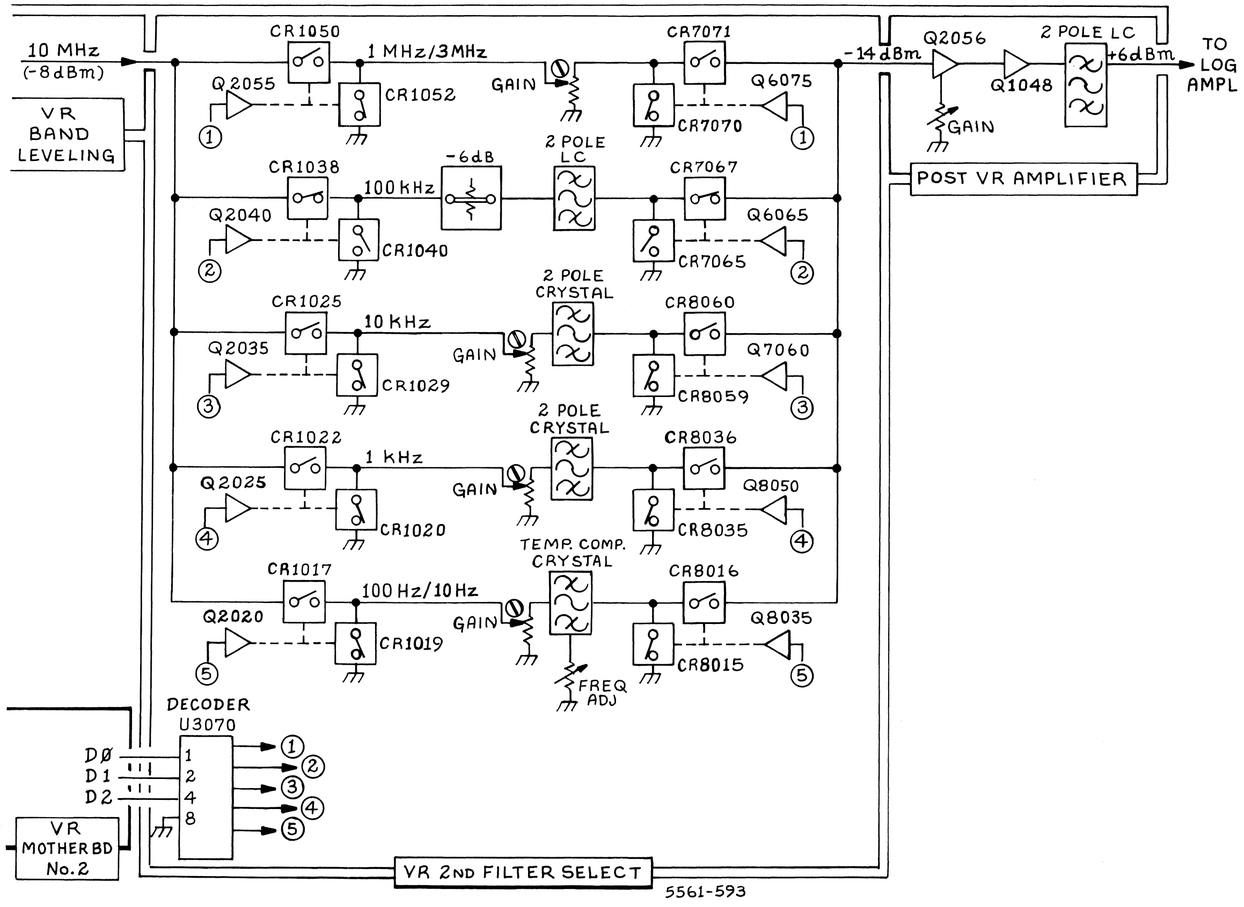
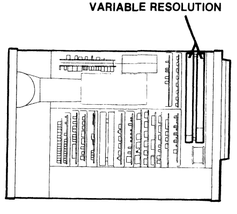


Fig. 10-33. A68A9—VR Post Amplifier circuit board.





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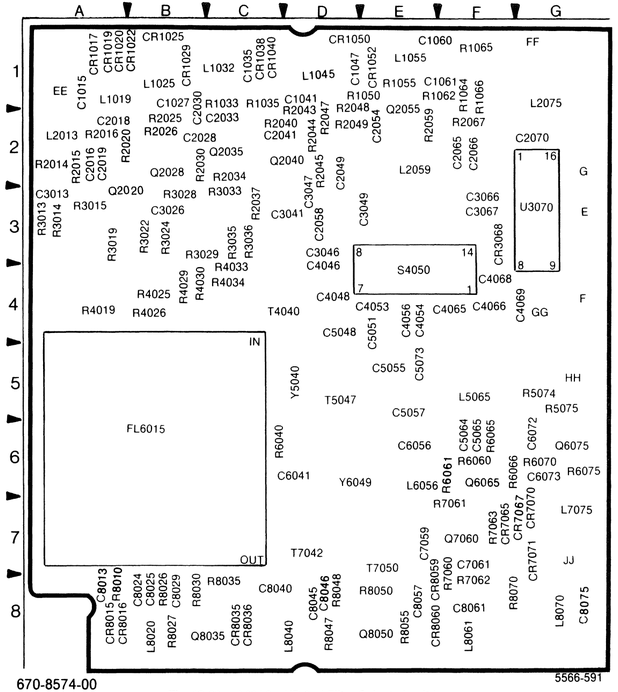

Fig. 10-32. A68A8—VR 2nd Filter Select circuit board.

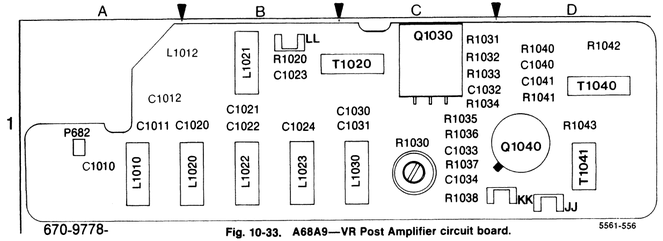

Fig. 10-33. A68A9—VR Post Amplifier circuit board.

VR 2nd FILTER SELECT & POST AMPLIFIER

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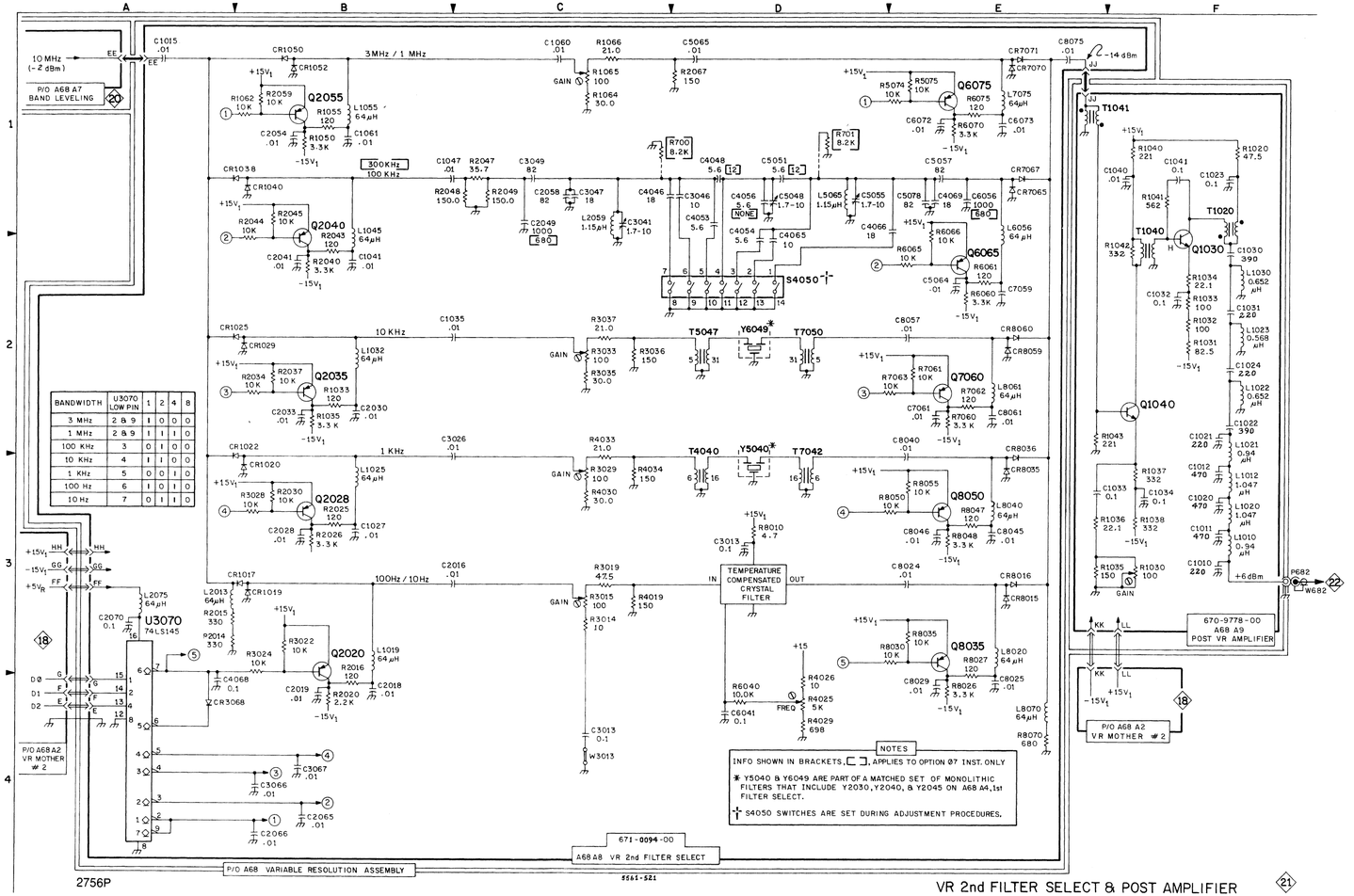
ASSEMBLY A68A8

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1015	A1	A1
C1027	C3	B1
C1035	C2	C1
C1041	C2	D1
C1047	C1	D1
C1060	C1	E1
C1061	C1	F1
C2016	C3	A2
C2018	C4	A2
C2019	B4	A2
C2028	B3	B2
C2030	B2	B1
C2033	B2	C2
C2041	B2	C2
C2049	C1	D2
C2054	B1	E2
C2058	C1	D3
C2065	A4	F2
C2066	A4	F2
C2070	A3	G2
C3013	C4	A3
C3026	C3	B3
C3041	C1	C3
C3046	D1	D3
C3047	C1	D3
C3049	C1	D3
C3066	A4	F3
C3067	A4	F3
C4046	C1	D4
C4048	D1	D4
C4053	D1	E4
C4054	D1	E4
C4056	D1	E4
C4065	D1	F4
C4066	D1	F4
C4068	B4	F4
C4069	E1	F4
C5048	D1	D4
C5051	D1	E4
C5055	D1	E5
C5057	E1	E5
C5064	E2	F6
C5065	D1	F6
C5073	E1	E5
C6041	D4	D6
C6056	E1	E6
C6072	E1	G6
C6072	E1	G6
C6073	E1	G6
C7059	E2	E7
C7061	E2	F7
C8013	D3	A8
C8024	D3	B8
C8025	E4	B8
C8029	E4	B8
C8040	D3	C8
C8045	E3	D8
C8046	E3	D8
C8057	D2	E8
C8061	E2	F8
C8075	E1	G8
CR1017	B3	A1
CR1019	B3	A1
CR1020	B3	A1
CR1022	B3	A1
CR1025	B2	B1
CR1029	B2	B1
CR1038	B1	C1
CR1040	B1	C1
CR1050	B1	D1
CR1052	B1	E1
CR3068	A4	F3
CR7065	E1	F7
CR7067	E1	F7
CR7070	E1	G7
CR7071	E1	G7
CR8015	E3	A8
CR8016	E3	B8
CR8035	E3	C8
CR8036	E3	C8
CR8059	E2	E8
CR8060	E2	E8
FL6015	D3	B6
L1019	C3	A1
L1025	C3	B1
L1032	C2	C1
L1045	C1	E1
L1055	C1	E1
L2013	B3	A2
L2059	C1	E2
L2075	A3	G1
L5065	D1	F5
L6056	E2	E6
L7075	E1	G7
L8020	E3	B8
L8040	E3	C8
L8061	E2	F8
L8070	E4	G8
Q2020	B3	A3
Q2028	B3	B2
Q2035	B2	C2
Q2040	B1	C2
Q2055	B1	E2
Q6065	E2	F6
Q6075	E1	G6
Q7060	E2	F7
Q8035	E3	B8
Q8050	E3	C8
R1062	B1	F1
R1064	C1	F1
R1065	C1	F1
R2014	B3	A2
R2015	B3	A2
R2016	B3	A2
R2020	B4	A2
R2025	B3	B2
R2026	B3	B2
R2030	B3	B2
R2030	C2	B2
R2034	B2	C2
R2037	B2	C3
R2040	B2	C2
R2043	B2	D2
R2044	B1	D2
R2045	B1	D2
R2047	C1	D2
R2048	C1	D2
R2049	C1	D2
R2059	B1	E2
R2067	D1	F2
R3013	C4	A3
R3014	C3	A3
R3015	C3	A3
R3019	C3	A3
R3022	B3	B3
R3024	B3	B3
R3028	B3	B3
R3029	C3	B3
R3033	C2	C2
R3035	C2	C3
R3036	C2	C3
R3037	C2	C3
R4019	C3	A4
R4025	D4	B4
R4026	D4	B4
R4029	D4	B4
R4030	C3	B4
R4033	C3	C4
R4034	C3	C4
R5074	E1	G5
R5075	E1	G5
R6040	D4	C6
R6060	E2	F6
R6061	E2	F6
R6065	E2	F6
R6066	E2	F6
R6070	E1	G6
R6075	E1	G6
R7060	E2	E8
R7061	E2	F7
R7062	E2	F8
R7063	E2	F7
R8010	D3	A8
R8026	E4	B8
R8027	E3	B8
R8030	E3	B8
R8035	E3	C8
R8047	E3	D8
R8048	E3	D8
R8050	E3	E8
R8055	E3	E8
R8070	E4	F8
S4050	D2	E4
T4040	D3	C4
T5047	D2	D5
T7042	D3	D7
T7050	D2	E7
U3070	A3	G3
Y5040	D3	D5
Y6049	D2	D6

ASSEMBLY A68A9

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1010	F3	A1
C1011	F3	A1
C1012	F3	A1
C1020	F3	B1
C1021	F2	B1
C1022	F2	B1
C1023	F1	B1
C1024	F2	B1
C1030	F2	C1
C1031	F2	C1
C1032	F2	C1
C1033	E3	C1
C1034	F3	C1
C1040	F1	D1
C1041	F1	D1
L1010	F3	A1
L1012	F3	A1
L1020	F3	B1
L1021	F2	B1
L1022	F2	B1
L1023	F2	B1
L1030	F2	C1
P682	F3	A1
Q1030	F2	C1
Q1040	F2	D1
R1020	F1	B1
R1030	F3	C1
R1031	F2	C1
R1032	F2	C1
R1033	F2	C1
R1034	F2	C1
R1035	E3	C1
R1036	E3	C1
R1037	F3	C1
R1038	F3	C1
R1040	F1	D1
R1041	F1	D1
R1042	F1	D1
R1043	E2	D1
T1020	F1	B1
T1040	F2	D1
T1041	E1	D1



VR 2nd FILTER SELECT & POST AMPLIFIER

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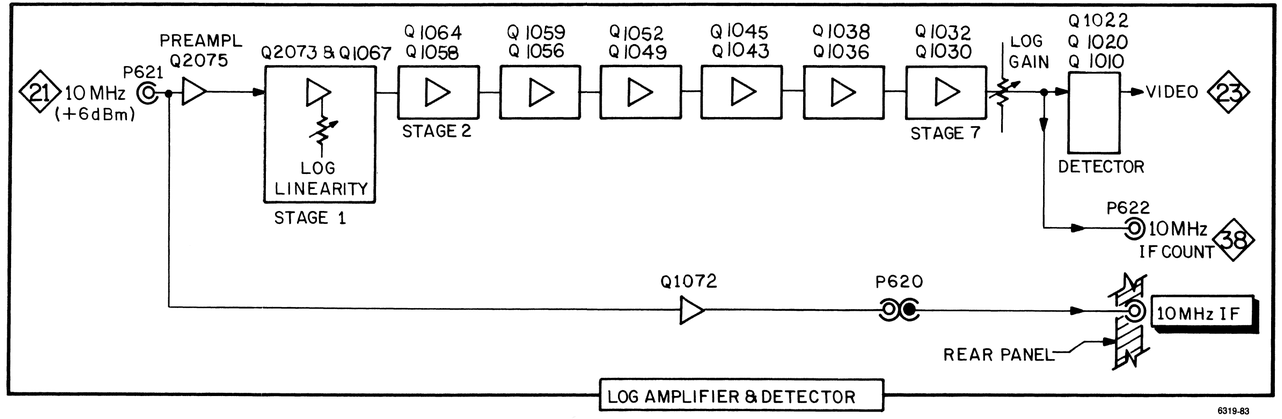


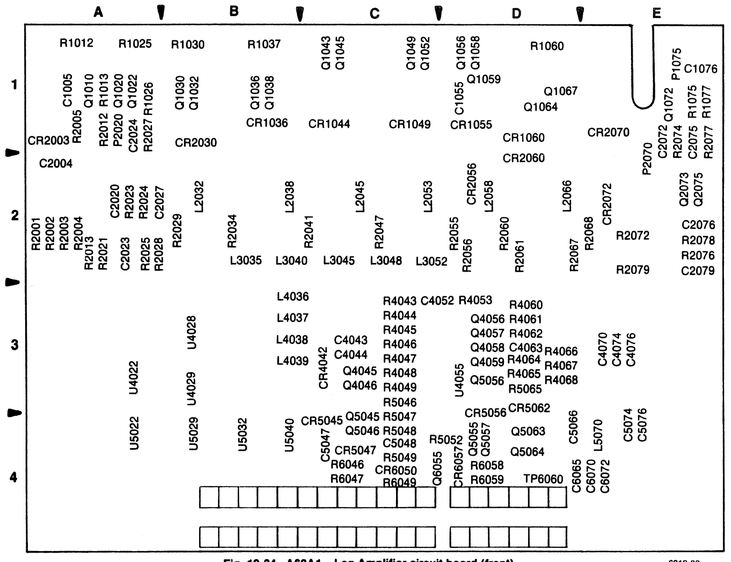
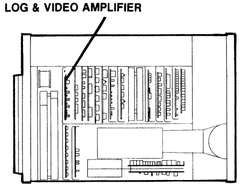


Fig. 10-34. A62A1—Log Amplifier circuit board (front).

6319-80



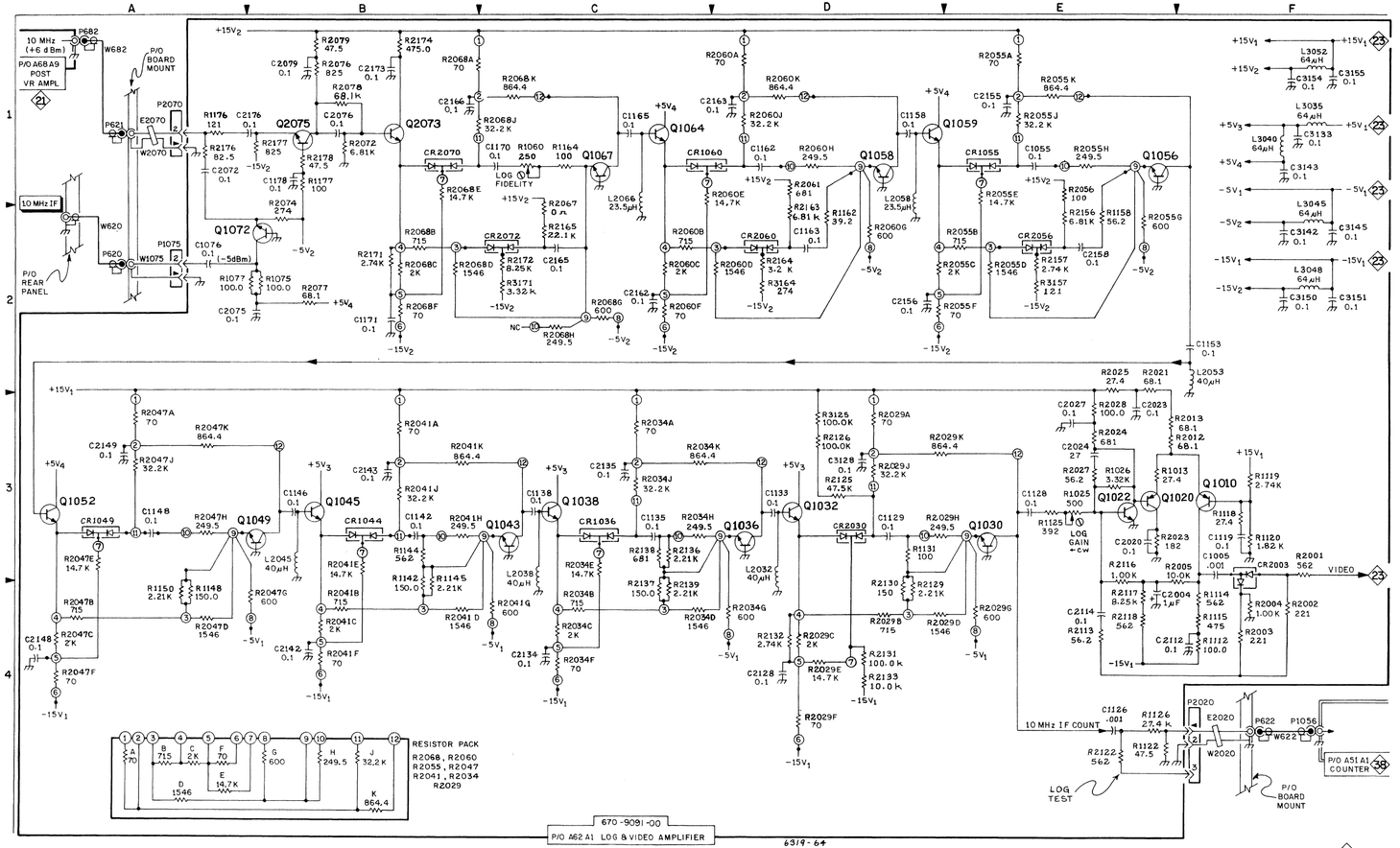
6319-32

LOG AMPLIFIER & DETECTOR

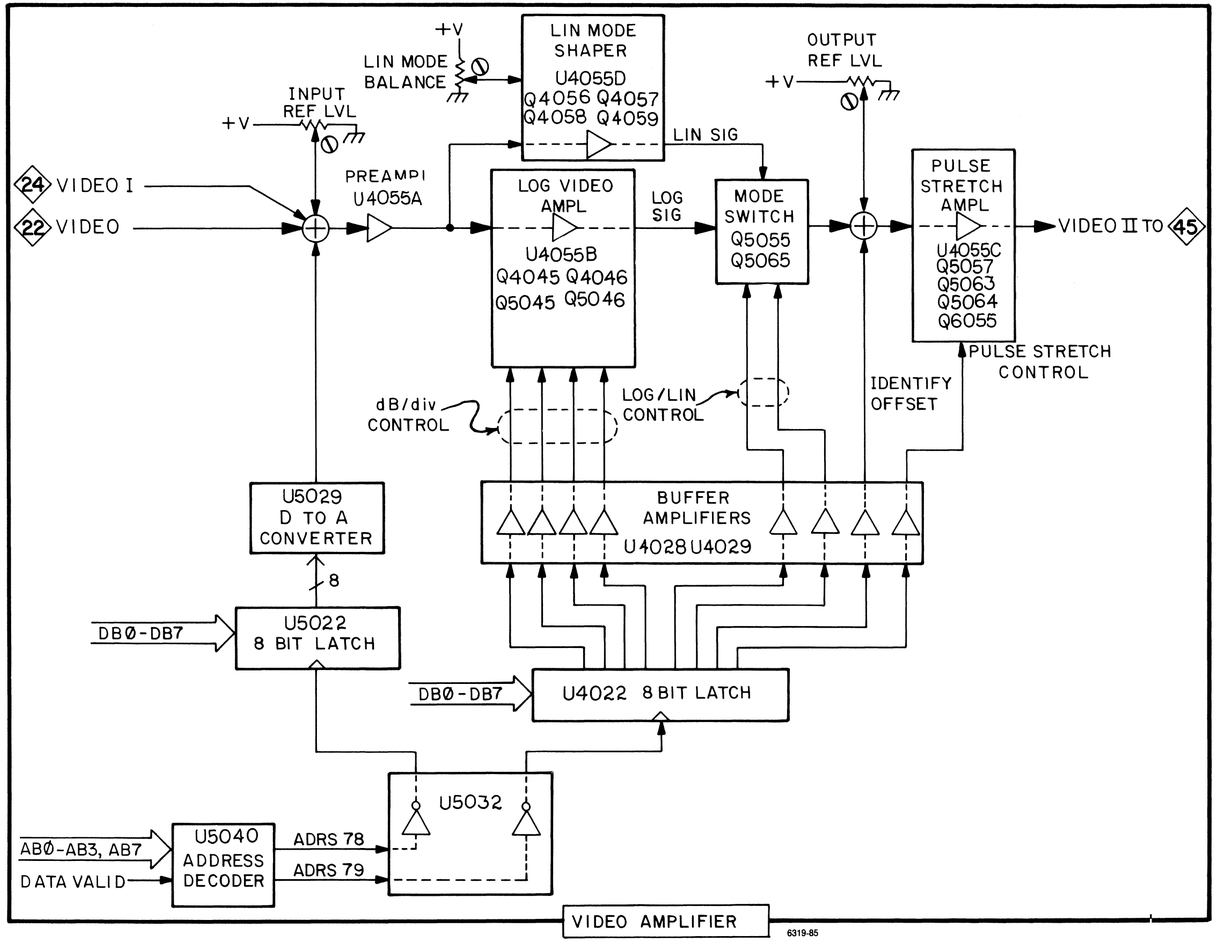
ASSEMBLY A62A1 (FRONT)

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1005	F3	A1
C1055	E1	D1
C1076	A2	E1
C2004	E4	A2
C2020	E3	A2
C2023	E3	A2
C2024	E3	A1
C2027	E3	A2
C2072	A1	E1
C2075	B2	E1
C2076	B1	E2
C2079	B1	E2
C4043	B5	C3
C4044	B5	C3
C4052	E5	C3
C4063	D2	D3
C4070	A1	E3
C4074	A1	E3
C4076	A1	E3
C5047	C2	C4
C5048	C3	C4
C5066	A1	D4
C5074	A1	E4
C5076	A2	E4
C6065	A2	D4
C6070	A2	E4
C6072	A2	E4
CR1036	C3	B1
CR1044	B3	C1
CR1049	A3	C1
CR1055	E1	D1
CR1060	C1	D1
CR2003	F3	A1
CR2030	D3	B1
CR2056	E2	D2
CR2060	D2	D1
CR2070	B1	E1
CR2072	C2	C3
CR5045	C2	C4
CR5047	C3	C4
CR5056	E2	D4
CR5062	D3	D4
CR6050	F1	C4
CR6057	E2	D4
L2032	D3	B2
L2038	C3	B2
L2045	B3	C2
L2053	F2	C2
L2058	D1	D2
L2066	C1	D2
L3035	F1	B2
L3040	F1	B2
L3045	F2	C2
L3048	F2	C2
L3052	F1	C2
L4036	A4	B3
L4037	A4	B3
L4038	B4	B3
L4039	B4	B3
L5070	A1	E4
P1075	A2	E1
P2020	F4	A1
P2070	A1	E2
Q1010	F3	A1
Q1020	E3	A1
Q1022	E3	A1
Q1030	E3	B1
Q1032	D3	B1
Q1036	D3	B1
Q1038	C3	B1
Q1043	B2	C1
Q1045	A3	C1
Q1049	B3	C1
Q1052	A3	C1
Q1056	E1	D1
Q1058	D1	D1
Q1059	D1	D1
Q1064	C1	D1
Q1067	C1	D1
Q1072	B2	E1
Q2073	B1	E2
Q2075	B1	E2
Q4045	C2	C3
Q4046	C2	C3
Q4056	D2	D3
Q4057	D2	D3
Q4058	D3	D3
Q4059	D3	D3
Q5045	C2	C4
Q5046	C2	C4
Q5055	D1	D4
Q5056	E2	D4
Q5057	F1	D4
Q5063	F2	D4
Q5064	F2	D4
Q6055	F2	C4
R1012	D5	A1
R1013	E3	A1
R1025	E3	A1
R1026	E3	A1
R1030	E2	B1
R1037	C5	B1
R1060	C1	D1
R1075	B2	E1
R1077	B2	E1
R2001	F3	A2
R2002	F4	A2
R2003	F4	A2
R2004	F4	A2
R2005	E3	A1
R2012	E3	A1
R2013	E3	A2
R2024	E3	A2
R2025	E2	A2
R2027	E3	A1
R2028	E3	A2
R2029	D3	B2
R2034	C3	B2
R2041	B3	C2
R2047	A3	C2
R2055	E1	D2
R2056	E1	D2
R2060	C1	D2
R2061	D1	D2
R2067	C1	D2
R2068	B1	E2
R2072	B1	E2
R2074	B2	E1
R2076	B1	E2
R2077	B2	E1
R2078	B2	E1
R2079	B1	E2
R4043	B4	C3
R4045	C5	C3
R4046	B4	C3
R4047	C4	C3
R4048	C3	C3
R4049	C3	C3
R4053	E5	D3
R4060	D2	D3
R4061	D2	D3
R4062	D2	D3
R4064	D3	D3
R4065	D3	D3
R4066	D3	D3
R4067	D3	D3
R4068	D3	D3
R5046	C3	C3
R5047	C3	C4
R5048	C3	C4
R5049	C1	C4
R5052	C1	C4
R5065	E2	D3
R6046	D1	C4
R6047	C1	C4
R6049	F1	C4
R6058	F1	D4
R6059	E1	D4
TP6060	F2	D4
U4022	B1	A3
U4028	B2	B3
U4029	B1	B3
U4055	E1	D3
U5022	B3	A4
U5029	B3	B4
U5032	B2	B4
U5040	A2	B4

Partial A62A1 is also shown on Diagram 23



LOG AMPLIFIER & DETECTOR 22



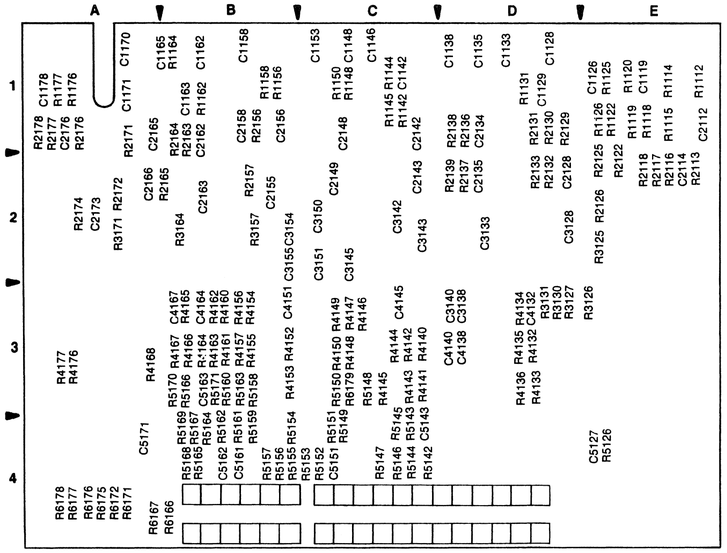
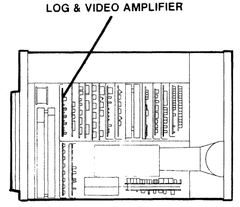


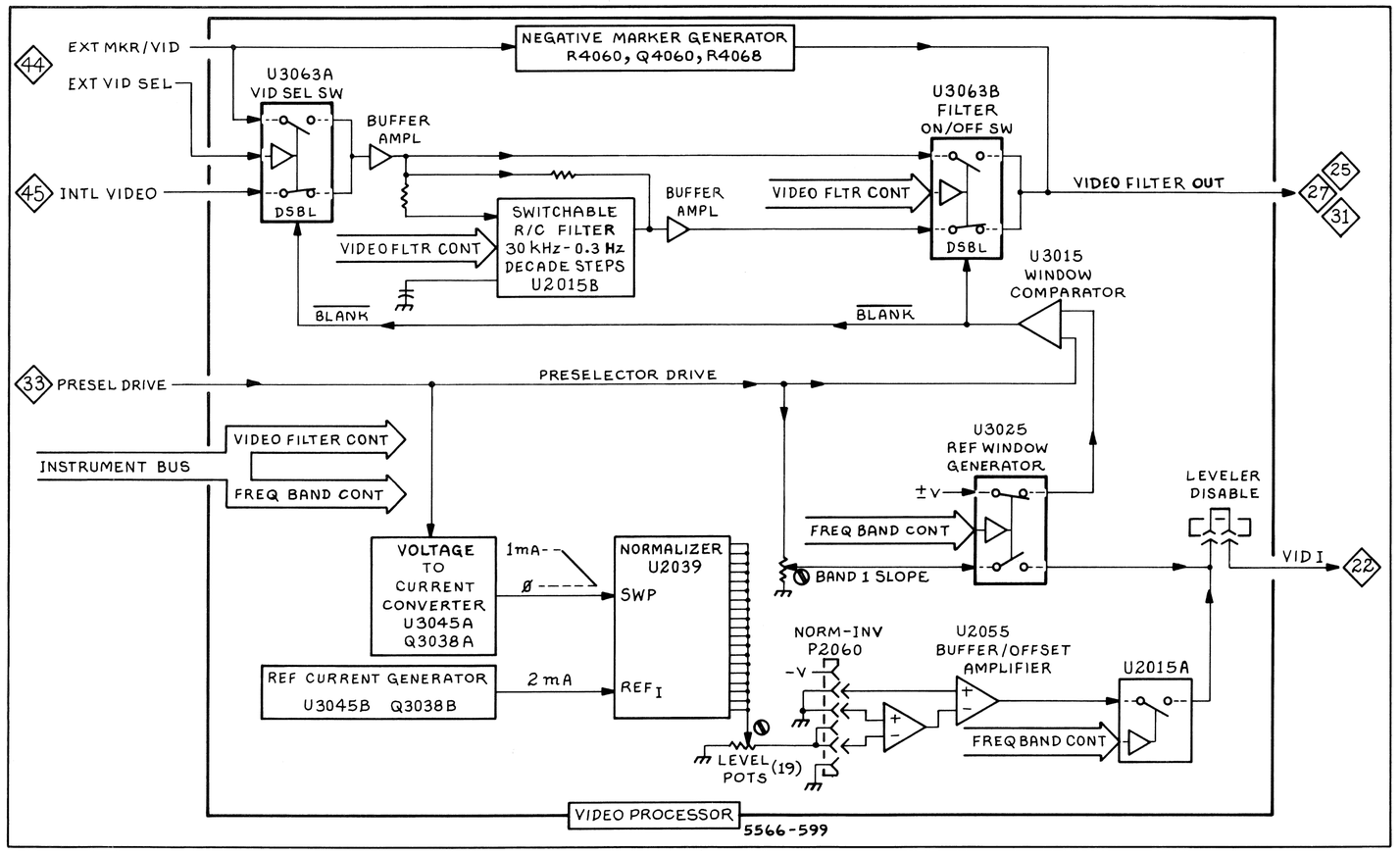
Fig. 10-35. A62A1—Log Amplifier circuit board (rear).

6319-79



6319-33

VIDEO PROCESSOR BLOCK DIAGRAM & CKT BD ILLUS



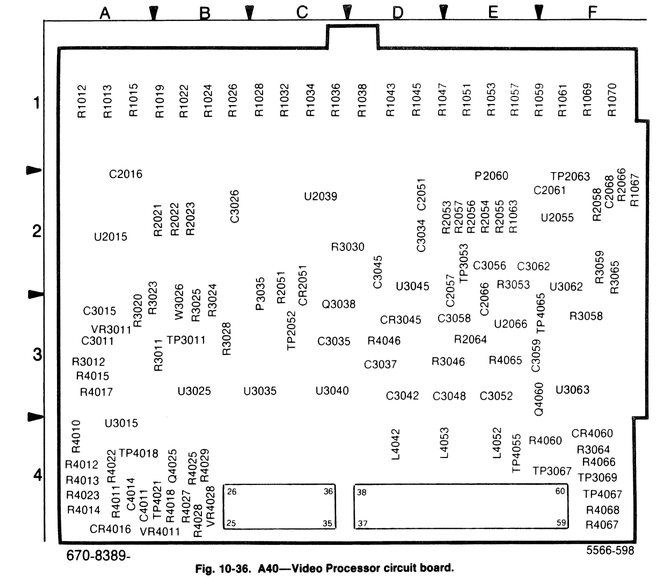
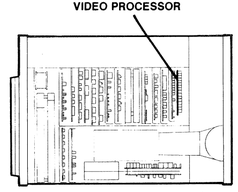
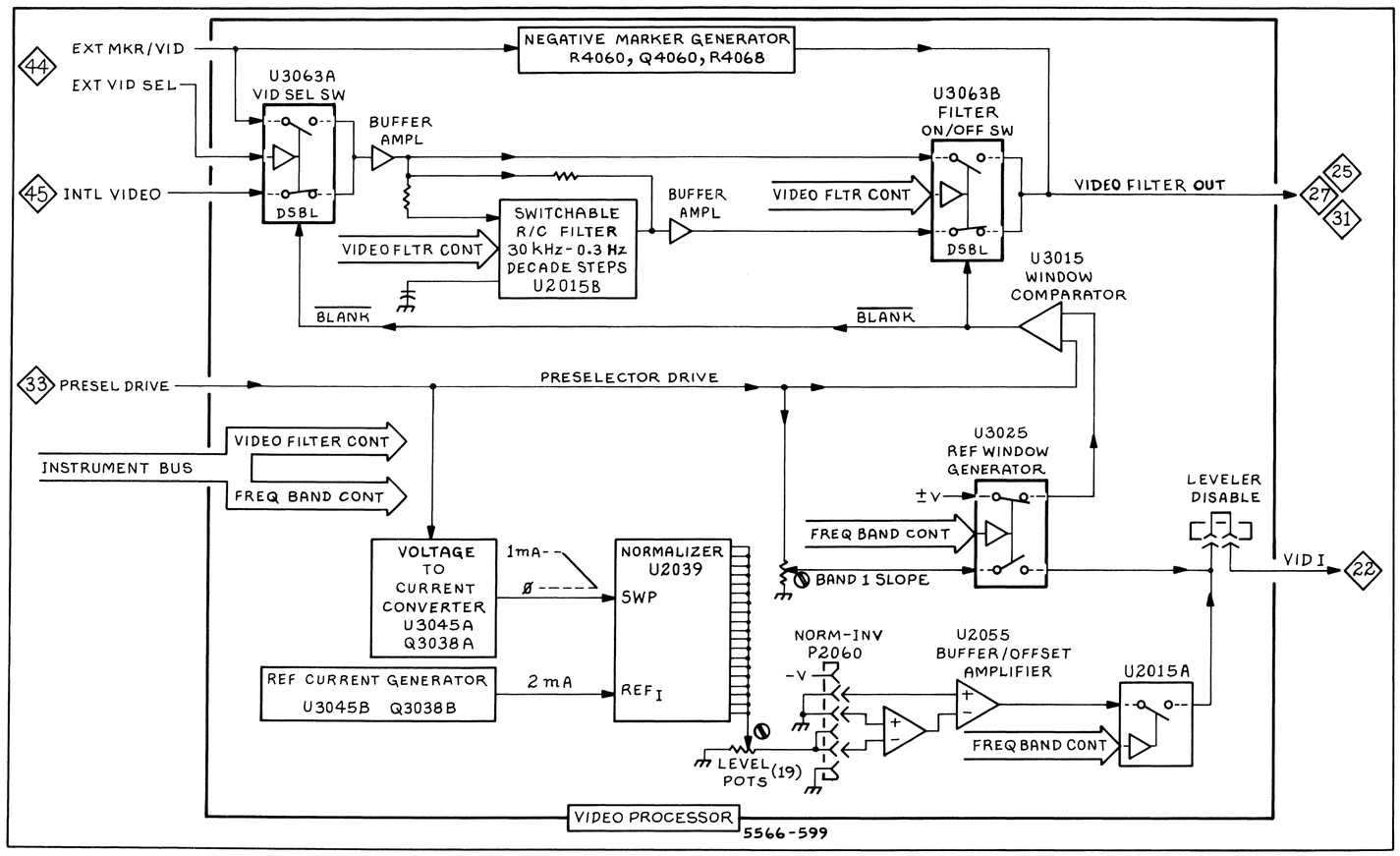


Fig. 10-36. A40—Video Processor circuit board.





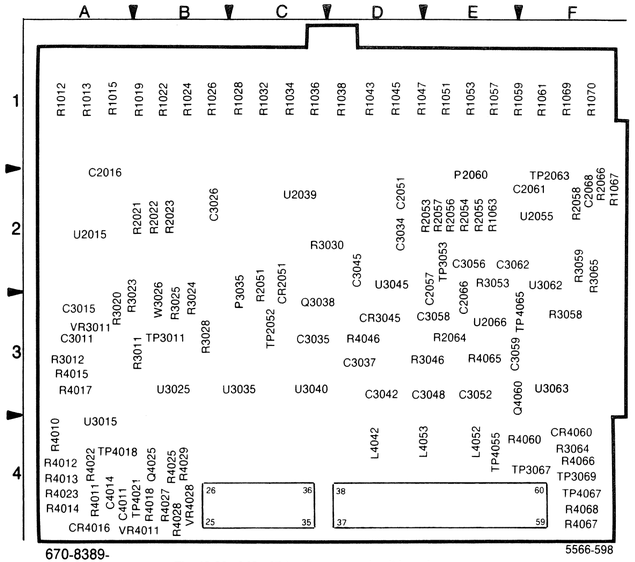
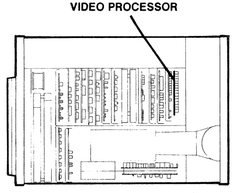
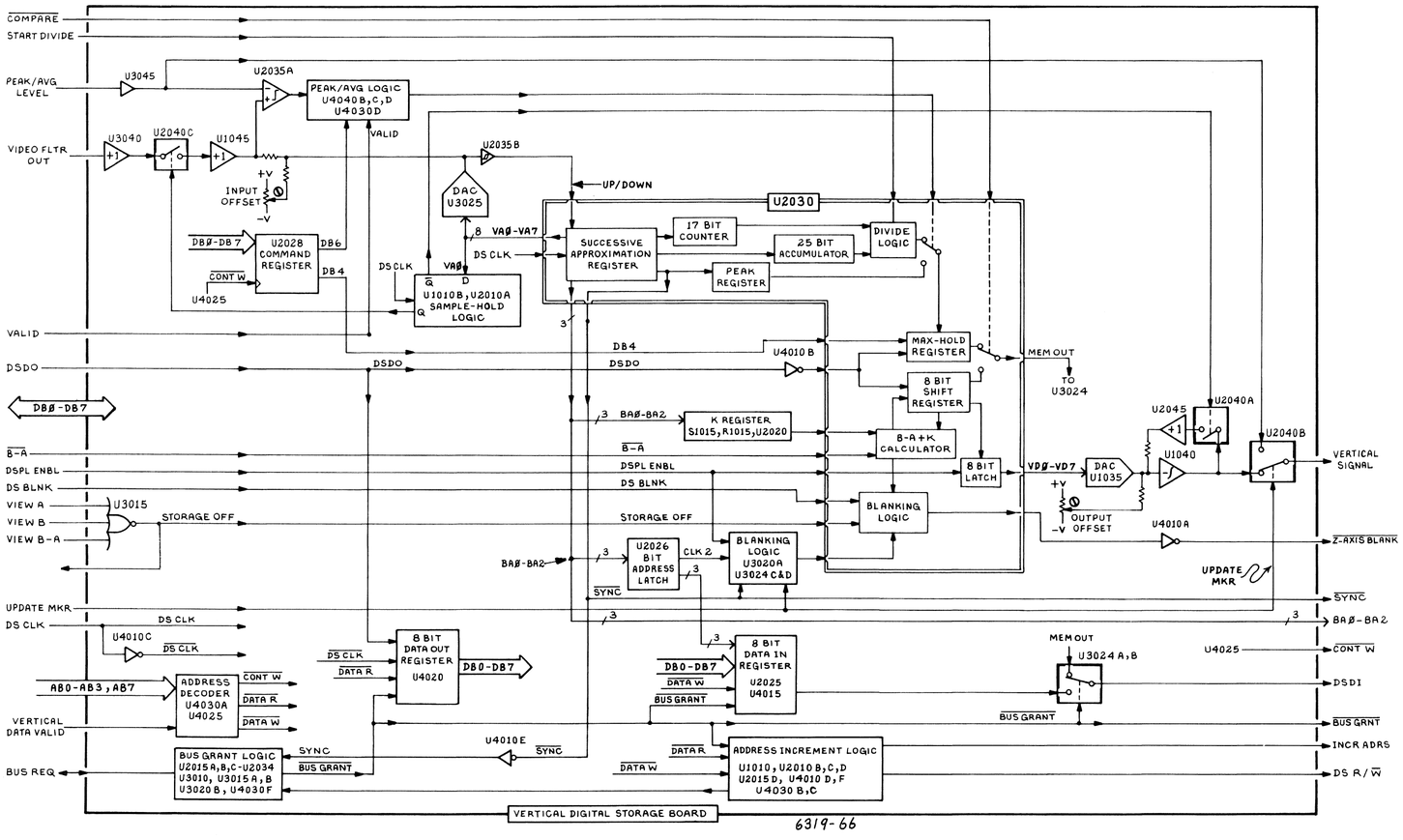


Fig. 10-36. A40—Video Processor circuit board.





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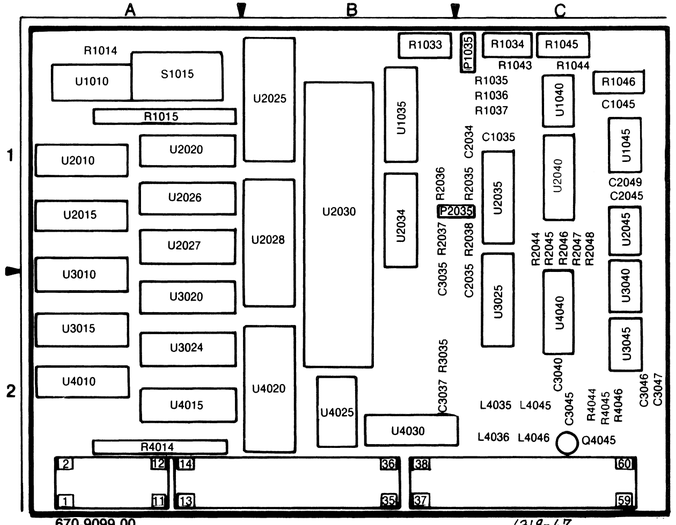

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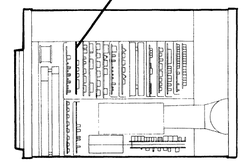
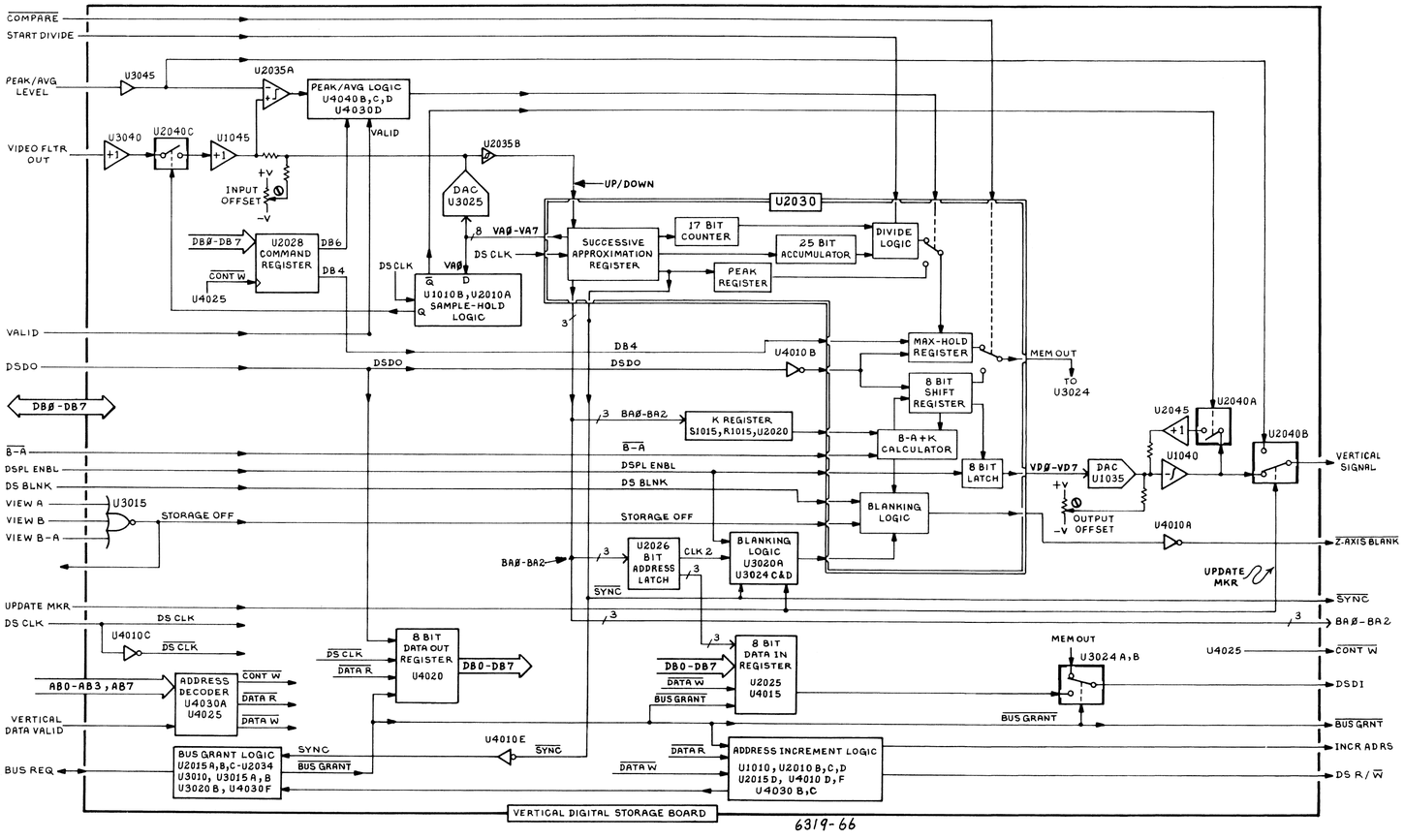
Fig. 10-37. A61A1—Vertical Digital Storage circuit board.

DIGITAL STORAGE, VERTICAL



6319-35



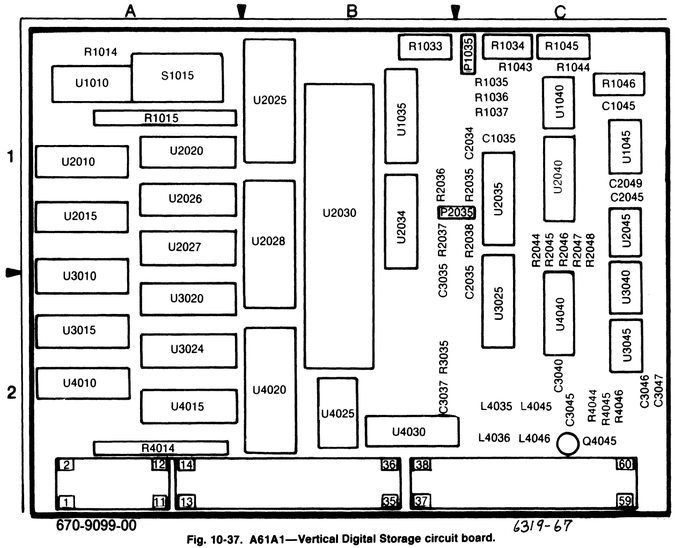
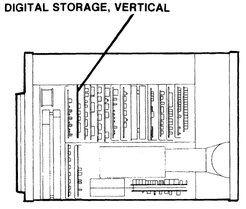
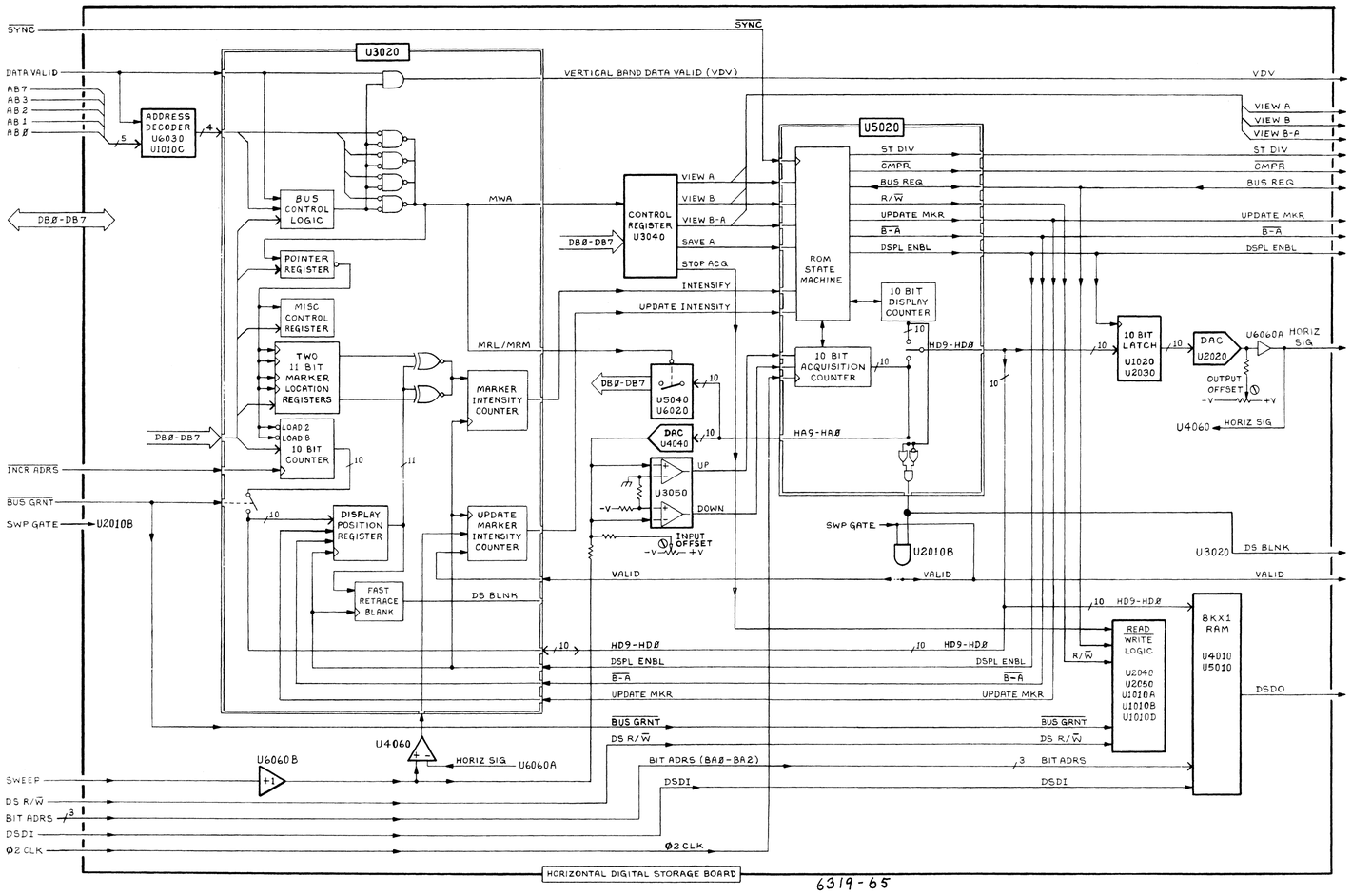


Fig. 10-37. A61A1—Vertical Digital Storage circuit board.





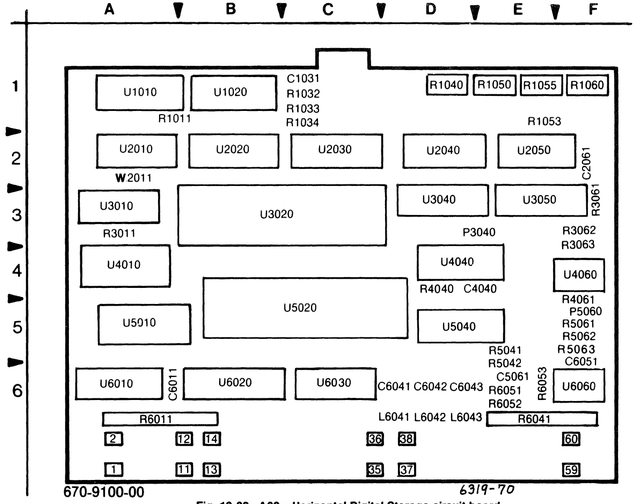
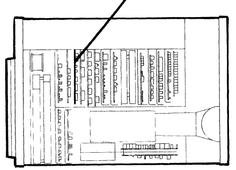
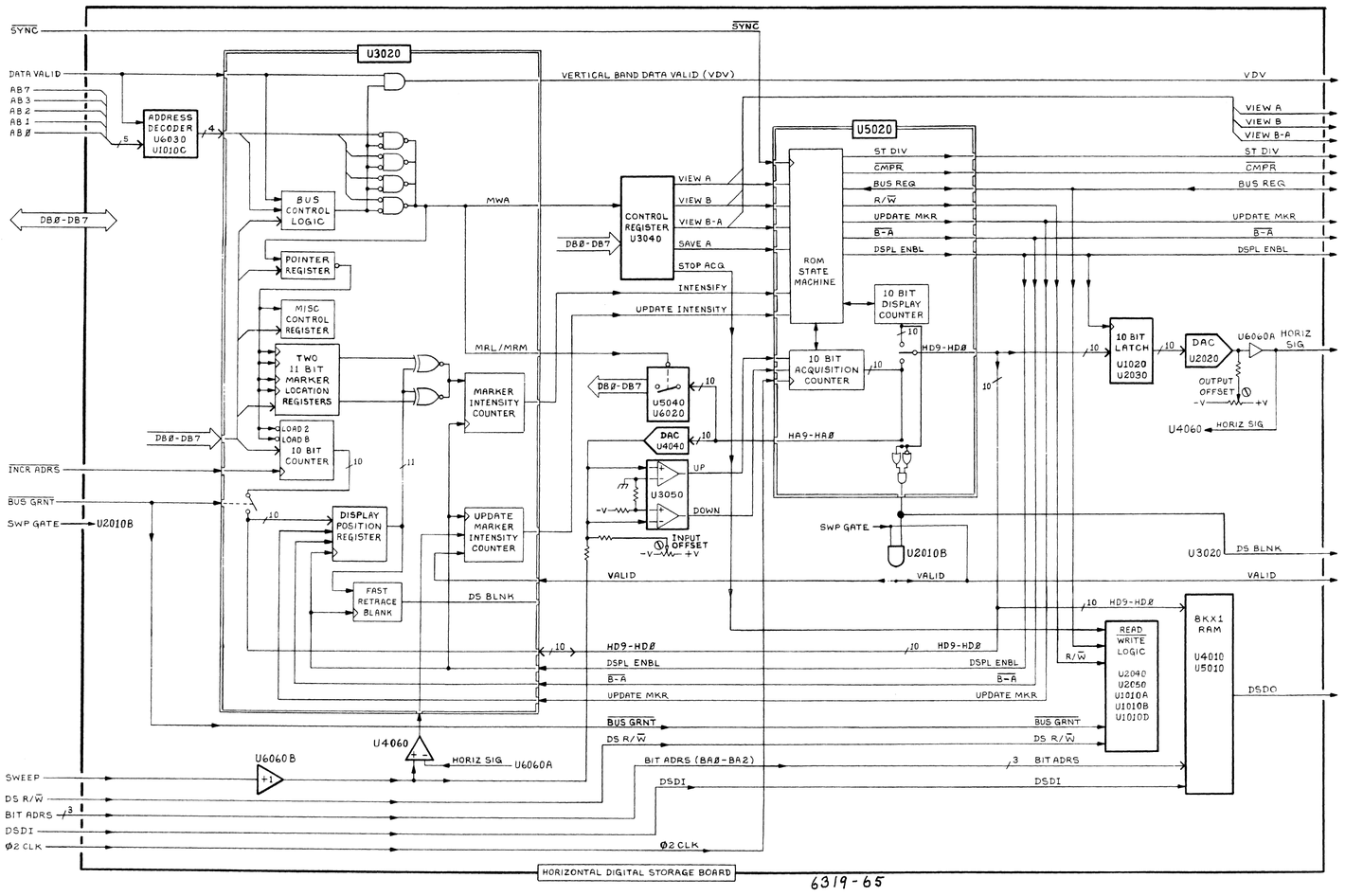


Fig. 10-38. A60—Horizontal Digital Storage circuit board.

DIGITAL STORAGE, HORIZONTAL



6319-36



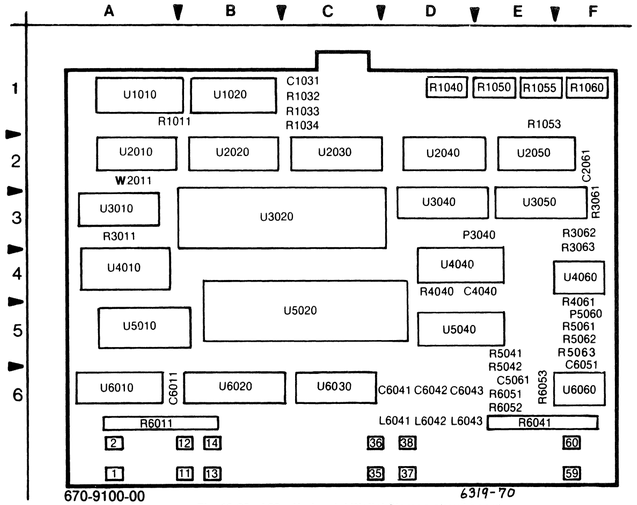
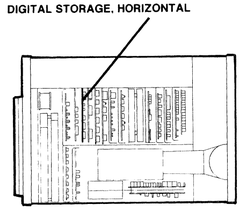
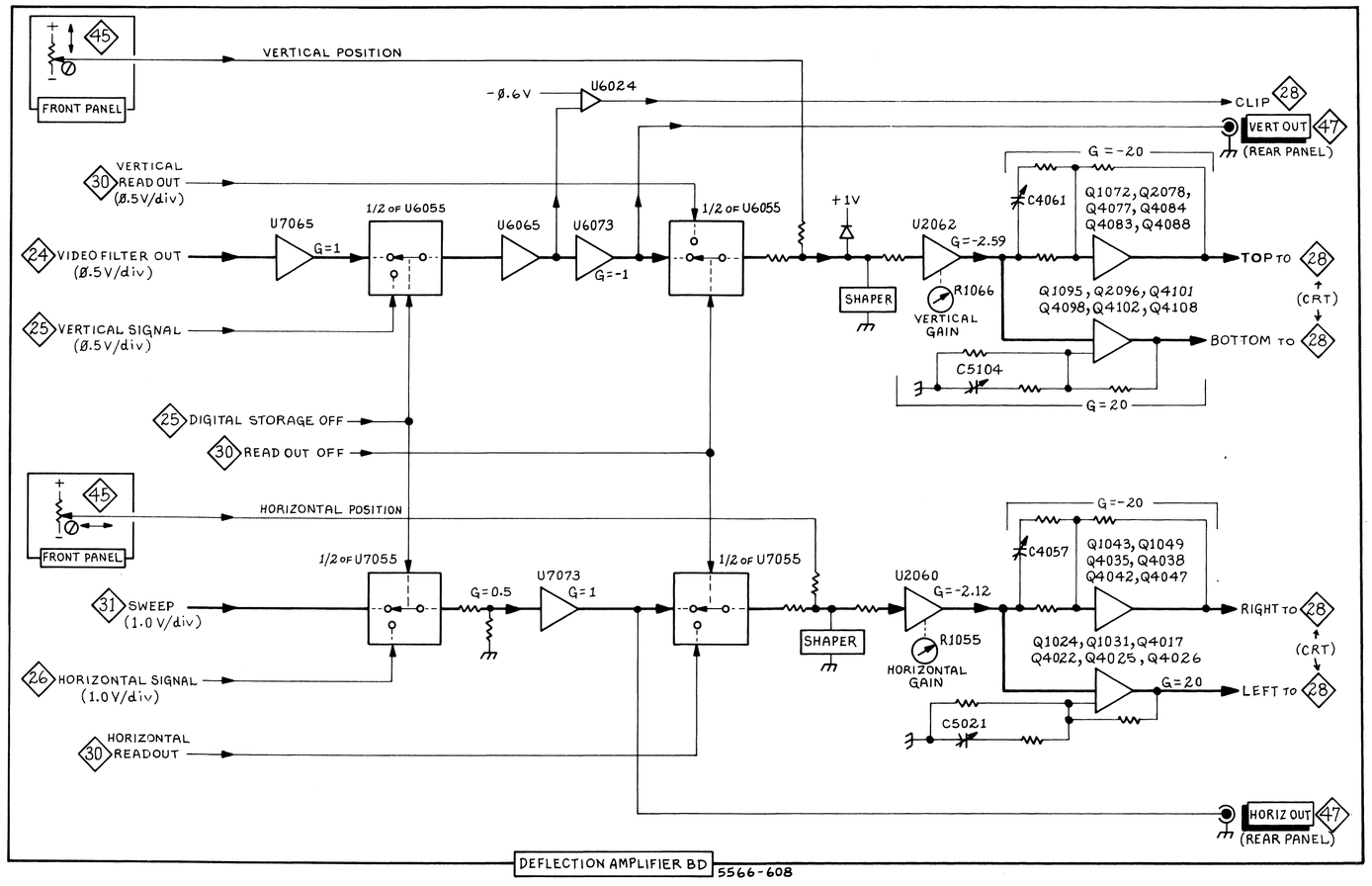


Fig. 10-38. A60—Horizontal Digital Storage circuit board.





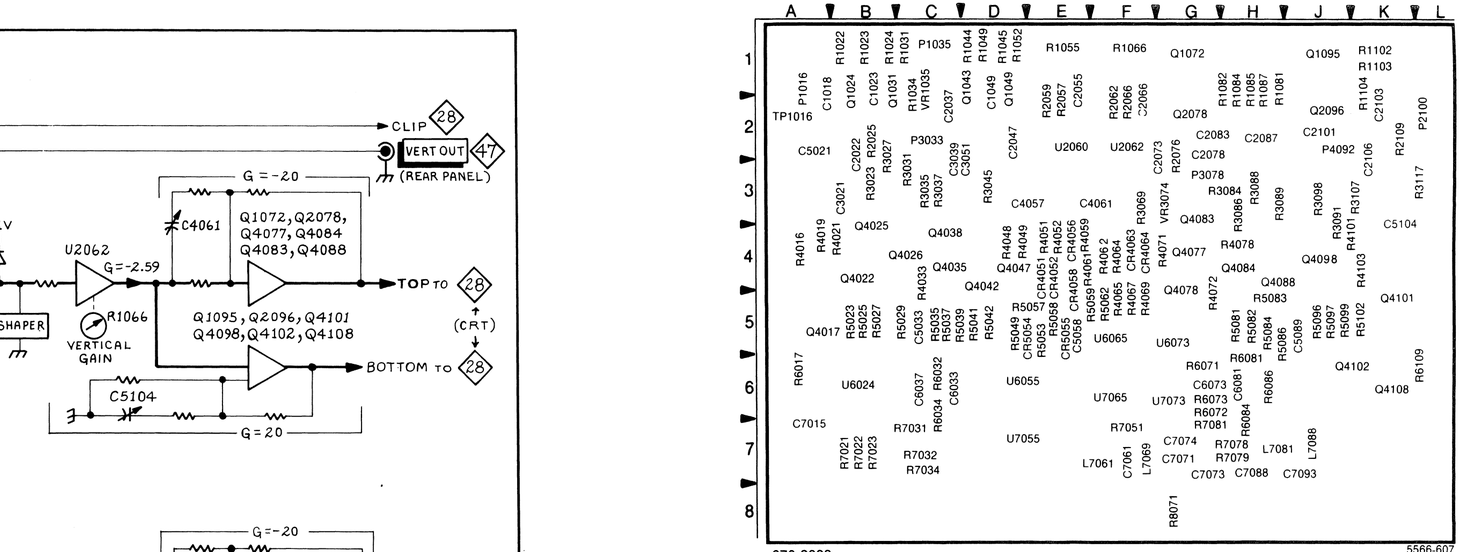


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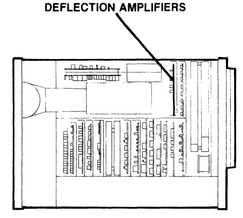
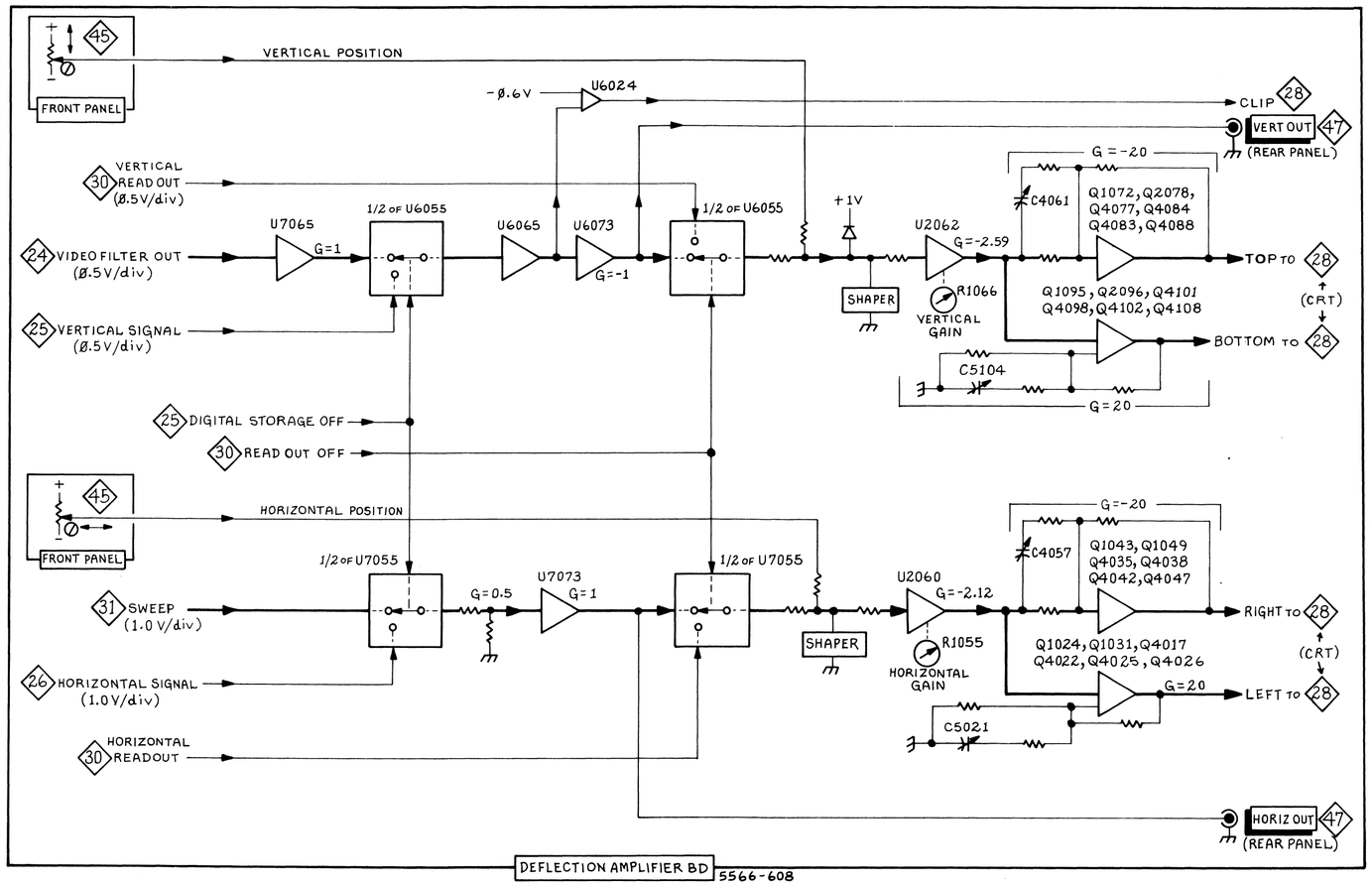
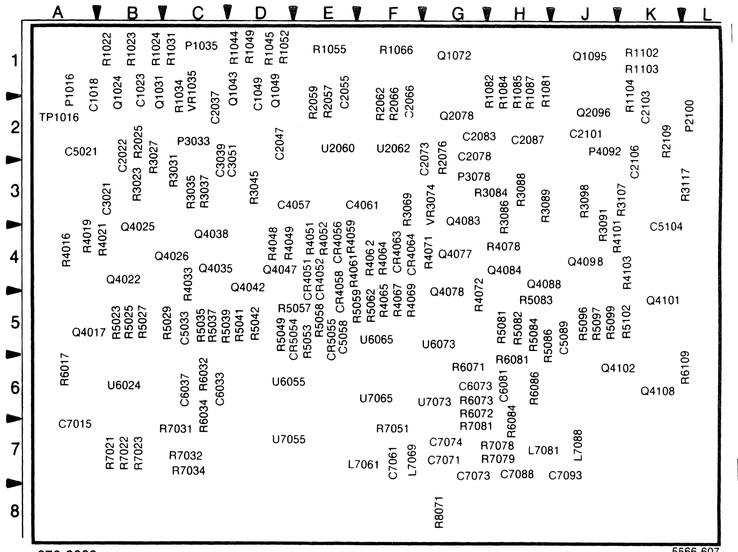
Fig. 10-39. A64A1—Deflection Amplifiers circuit board.



6319-41

DEFLECTION AMPLIFIERS BLOCK DIAGRAM & CRT BD ILLUS





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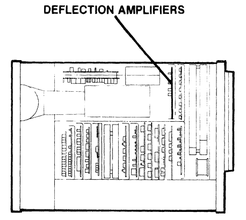
5566-607

Fig. 10-39. A64A1—Deflection Amplifiers circuit board.



6319-41

DEFLECTION AMPLIFIERS BLOCK DIAGRAM & CKT BD ILLUS

DEFLECTION AMPLIFIERS

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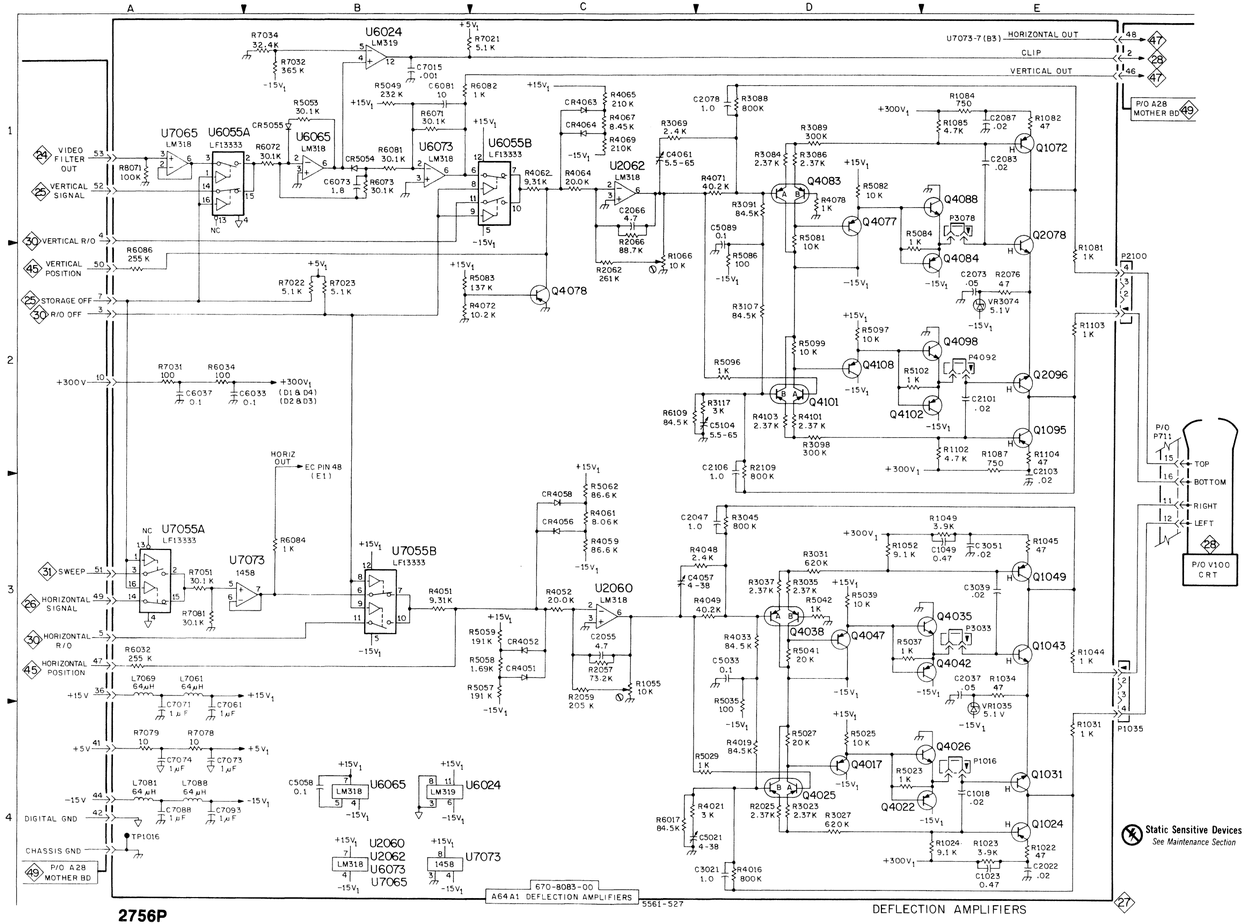
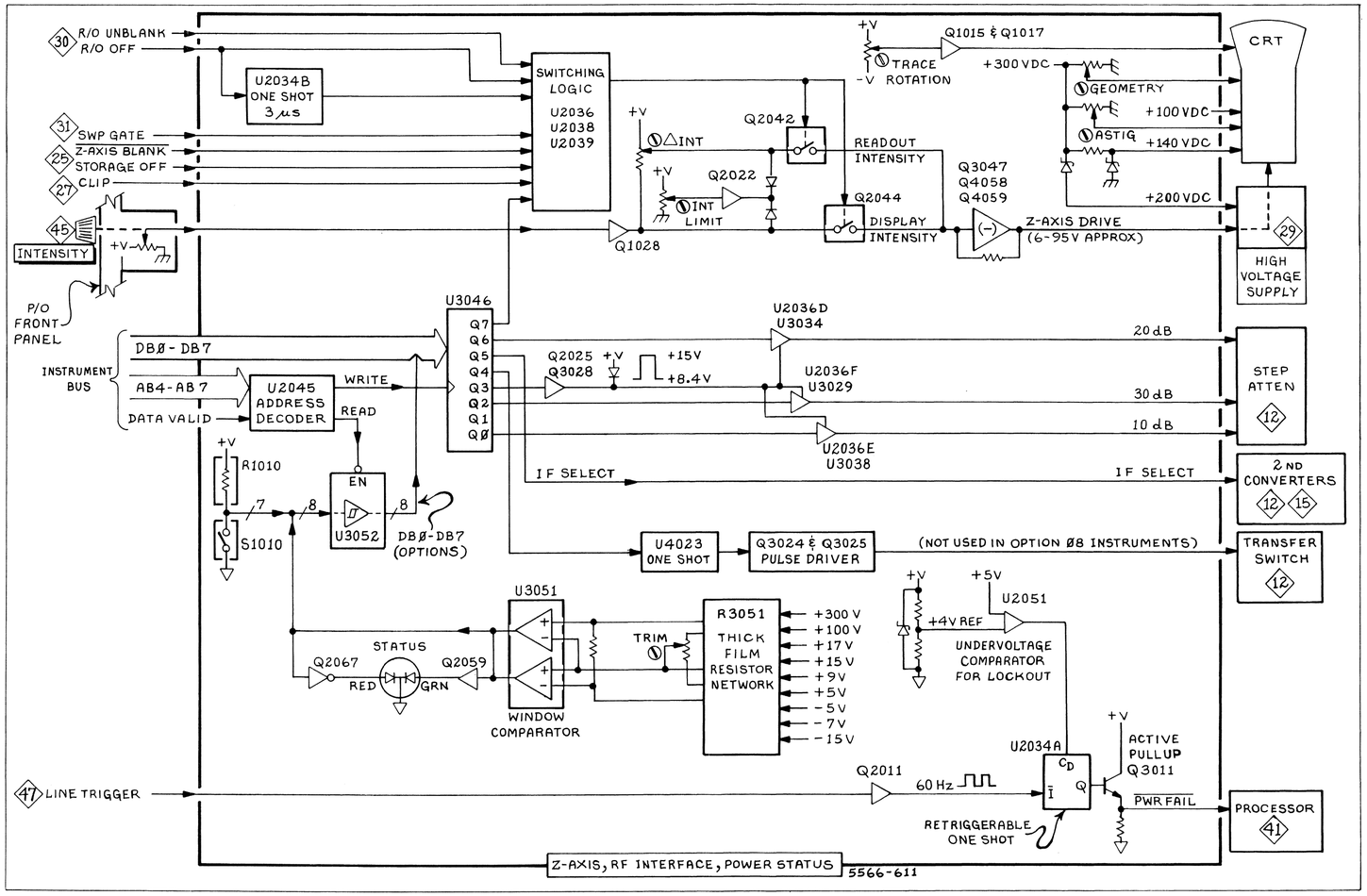
ASSEMBLY A64A1

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1018	E3	A1
C1023	E3	B1
C1049	E3	D1
C2022	E3	B2
C2037	E3	C2
C2047	C3	D2
C2055	C3	E2
C2066	C1	F2
C2073	E2	G1
C2078	D1	G1
C2083	E1	G1
C2087	E1	H2
C2101	E2	J2
C2103	E2	K2
C2106	D2	K2
C3021	C4	B3
C3039	E3	C3
C3051	E3	C3
C4057	C3	E3
C4061	C1	F3
C5021	D4	A2
C5033	D3	C5
C5058	B4	E5
C5089	D1	J5
C5104	D2	K4
C6033	B2	C6
C6037	A2	C6
C6073	B1	G6
C6081	B1	H6
C7015	B1	A7
C7061	A3	F7
C7071	A3	G7
C7073	A4	G7
C7074	A4	G7
C7088	A4	H7
C7093	A4	J7
CR4051	C3	E4
CR4052	C3	E4
CR4056	C3	E4
CR4058	C3	E4
CR4063	C1	F4
CR4064	C1	F4
CR5054	B1	D4
CR5055	B1	E5
L7061	A3	F7
L7069	A3	F7
L7081	A4	H7
L7088	A4	J7
P1016	E3	A1
P1035	E4	C1
P2100	E2	L2
P3033	E3	C2
P4092	E2	J2
Q1024	E3	B1
Q1031	E3	B1
Q1043	E3	D1
Q1049	E3	D1
Q1072	E1	G1
Q1095	E2	J1
Q2078	E1	G1
Q2096	E2	J2
Q4017	D4	A5
Q4022	D4	B4
Q4025	D4	B4
Q4026	E3	C4
Q4035	E3	C4
Q4038	D3	C4
Q4042	E3	D4
Q4047	D3	D4
Q4077	D1	G4
Q4078	C2	G4
Q4083	D1	G3
Q4084	E2	H4
Q4088	E1	H4
Q4098	E2	J4
Q4101	D2	K5
Q4102	D2	K6
Q4108	D2	K6
R1022	E3	B1
R1023	E3	B1
R1024	E3	B1
R1041	E3	D1
R1045	E3	D1
R1049	E3	D1
R1052	D3	D1
R1055	C3	E1
R1066	C2	F1
R1081	E1	H1
R1082	E1	H1
R1084	E1	H1
R1085	E1	H1
R1087	E2	H1
R1102	E2	K1
R1103	E2	K1
R1104	E2	K1
R2025	D4	B2
R2057	C3	E2
R2059	C3	E2
R2062	C2	F2
R2066	C1	F2
R2076	E2	G1
R3033	E3	C2
R3037	E3	B1
R3045	E3	B1
R3069	E3	D1
R3088	E2	J2
R4014	D4	B4
R4016	D4	A4
R4019	D4	A4
R4021	D4	B4
R4033	D3	C4
R4048	C3	D4
R4049	C3	D4
R4059	C3	E4
R4061	C3	E4
R4062	C1	F4
R4063	C1	F4
R4064	C1	F4
R4065	C1	F5
R4067	C1	F5
R4069	C1	F5
R4071	D1	G4
R4072	C2	G4
R4078	D1	H4
R4101	D2	J4
R4103	D2	K4
R5023	D4	B5
R5025	D4	B5
R5027	D4	B5
R5029	D3	B5
R5035	D3	C5
R5037	D3	C5
R5039	D3	C5
R5041	D3	D4
R5042	D3	D4
R5047	D3	D4
R5049	B1	D4
R5053	B1	E5
R5057	C3	D4
R5058	C3	E5
R5059	C3	E5
R5062	C3	F5
R5083	C2	H5
R5084	D1	H5
R5086	D2	H5
R5096	D2	J5
R5097	D2	J5
R5102	D2	K5
R5099	D2	J5
R6032	A3	C6
R6034	A2	C6
R6071	B1	G6
R6072	B1	G6
R6073	B1	G6
R6081	B1	H6
R6082	C1	H5
R6084	A4	H7
R6086	A2	H6
R6109	C2	L6
R7021	C1	B7
R7022	B2	B7
R7023	B2	B7
R7031	A2	C7
R7032	B1	C7
R7034	B1	C7
R7051	A3	C7
R7078	A4	G7
R7079	A4	G7
R7081	A4	H7
R8071	A1	G8
TP1016	A4	A2
U2060	B4	E2
U2062	B4	F2
U2062	C1	F2
U6024	B1	B6
U6024	B4	B6
U6055A	A1	D6
U6055B	C1	D6
U6065	B1	F5
U6065	B4	F5
U6073	B1	G5
U6073	B4	G5
U7055A	A3	D7
U7055B	B3	D7
U7065	A1	F6
U7065	B4	F6
U7073	A3	G6
U7073	B4	G6
U7073	E1	G6
VR1035	E3	C1
VR3074	E2	G3





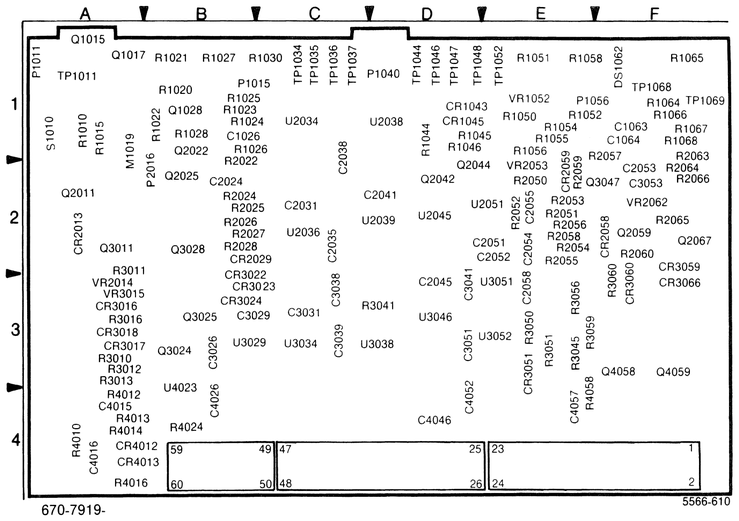
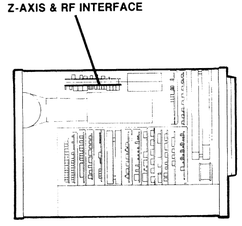


Fig. 10-40. A70—Z-Axis & RF Interface circuit board.



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Z-AXIS, RF INTERFACE, POWER STATUS

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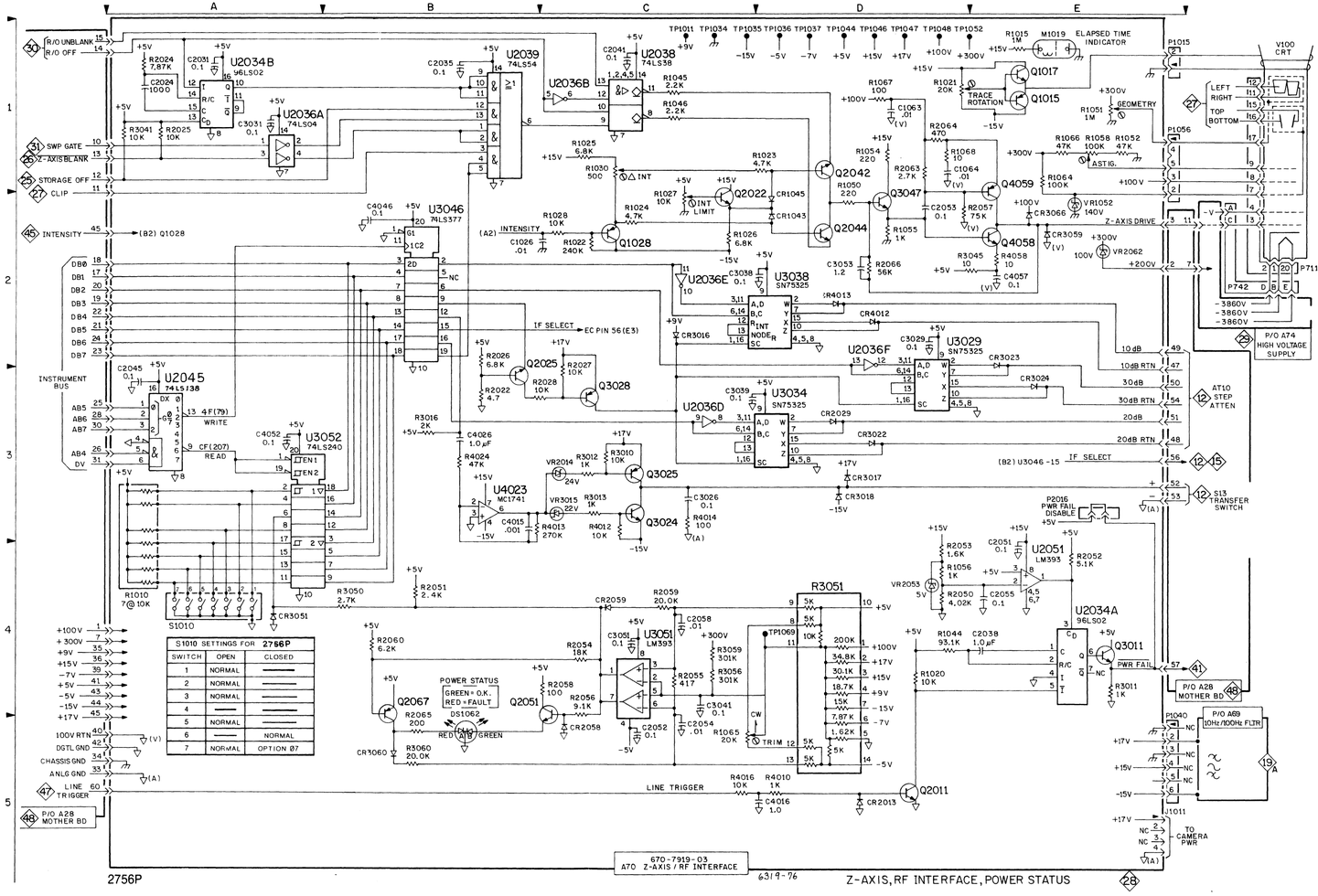
ASSEMBLY A70

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1026	B2	B1	CR4013	D2	A4	R1051	E1	E1	R4014	C3	A4
C1063	D1	F1				R1052	E1	E1	R4016	C5	A4
C1064	D1	F1	DS1062	B4	F1	R1054	D1	E1	R4024	B3	B4
C2024	A1	B2				R1055	D2	E1	R4058	E2	E4
C2031	A1	C2	M1019	E1	A1	R1056	D4	E2			
C2035	B1	C2				R1058	E1	E1	S1010	A4	A1
C2038	E4	C2	P1011	E5	A1	R1064	E1	F1			
C2041	C1	D2	P1015	E1	B1	R1065	C5	F1	TP1011	C1	A1
C2045	A2	D3	P1040	E5	D1	R1066	E1	F1	TP1034	C1	C1
C2051	E4	E2	P1056	E1	E1	R1067	D1	F1	TP1035	C1	C1
C2052	C5	E2	P2016	E5	B2	R1068	D1	F1	TP1036	D1	C1
C2053	D2	F2				R2022	B3	B2	TP1037	D1	C1
C2054	C5	E2	Q1015	E1	A1	R2024	A1	B2	TP1044	D1	D1
C2055	E4	E2	Q1017	E1	A1	R2025	A1	B2	TP1046	D1	D1
C2058	C4	E3	Q1028	A2	B1	R2026	B2	B2	TP1047	D1	D1
C3026	C3	B2	Q1028	C2	B1	R2027	C2	B2	TP1048	D1	D1
C3029	D2	B2	Q2011	D5	A2	R2028	B3	B2	TP1052	D1	E1
C3031	A1	C3	Q2022	C1	B1	R2050	D4	E2	TP1068	C3	F1
C3038	C2	C3	Q2025	B2	B2	R2051	B4	E2	TP1069	D4	F1
C3039	C3	C3	Q2042	D1	D2	R2052	E4	E2			
C3041	C4	D3	Q2044	D2	D2	R2053	D4	E2	U2034A	E4	C1
C3051	C4	D3	Q2059	B4	F2	R2054	C4	E2	U2034B	A1	C1
C3053	D2	F2	Q2067	B4	F2	R2055	C4	E2	U2036A	A1	C2
C4015	B3	A4	Q3011	E4	A2	R2056	C4	E2	U2036B	C1	C2
C4016	D5	A4	Q3024	C3	B2	R2057	E2	F2	U2036D	C3	C2
C4026	B3	B4	Q3025	C3	B2	R2058	C4	E2	U2036E	C2	C2
C4046	B2	D4	Q3028	C3	B2	R2059	C4	E2	U2036F	D2	C2
C4052	A3	D4	Q3047	D1	F2	R2060	B4	F2	U2038	C1	D1
C4057	E2	E4	Q4058	E2	F3	R2063	D1	F2	U2039	B1	D2
			Q4059	E1	F3	R2064	D1	F2	U2045	A3	D2
CR1043	D2	D1				R2065	B4	F2	U2051	E4	E2
CR1045	D1	D1	R1010	A4	A1	R2066	D2	F2	U3029	D2	B2
CR2013	D5	A2	R1015	E1	A1	R3010	C3	A3	U3034	D3	C3
CR2029	D3	B2	R1020	D4	B1	R3011	E5	A2	U3038	D2	D3
CR2058	C5	F2	R1021	D1	B1	R3012	C3	A3	U3046	B2	D3
CR2059	C4	E2	R1022	C2	B1	R3013	C3	A3	U3046A	E3	D3
CR3016	C2	A3	R1023	D1	B1	R3016	B3	A3	U3051	C4	E3
CR3017	D3	A3	R1024	C2	B1	R3041	A1	D3	U3052	A3	E3
CR3018	D3	A3	R1025	C1	B1	R3045	D2	E3	U4023	B3	B4
CR3022	D3	B2	R1026	C2	B1	R3050	B4	E3			
CR3023	E2	B2	R1027	C1	B1	R3051	D4	E3	VR1052	E2	E1
CR3024	E2	B2	R1028	C2	B1	R3056	C4	E3	VR2014	C3	A3
CR3051	A4	E3	R1030	C1	C1	R3059	C4	E3	VR2053	D4	E2
CR3059	E2	F3	R1044	D4	D1	R3060	B5	F3	VR2062	E2	F2
CR3060	B5	F3	R1045	C1	D1	R4010	D5	A4	VR3015	C3	A3
CR3066	E2	F3	R1046	C1	D1	R4012	C3	A4			
CR4012	D2	A4	R1050	D1	E1	R4013	C3	A4			



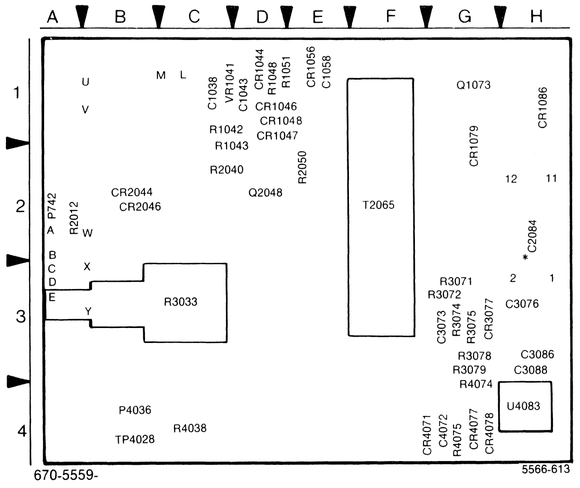
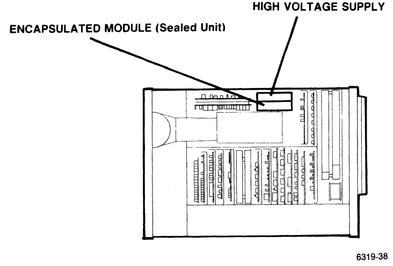


Fig. 10-41. A74—High Voltage circuit board.

* MOUNTED ON REAR OF BOARD



HIGH VOLTAGE SUPPLY

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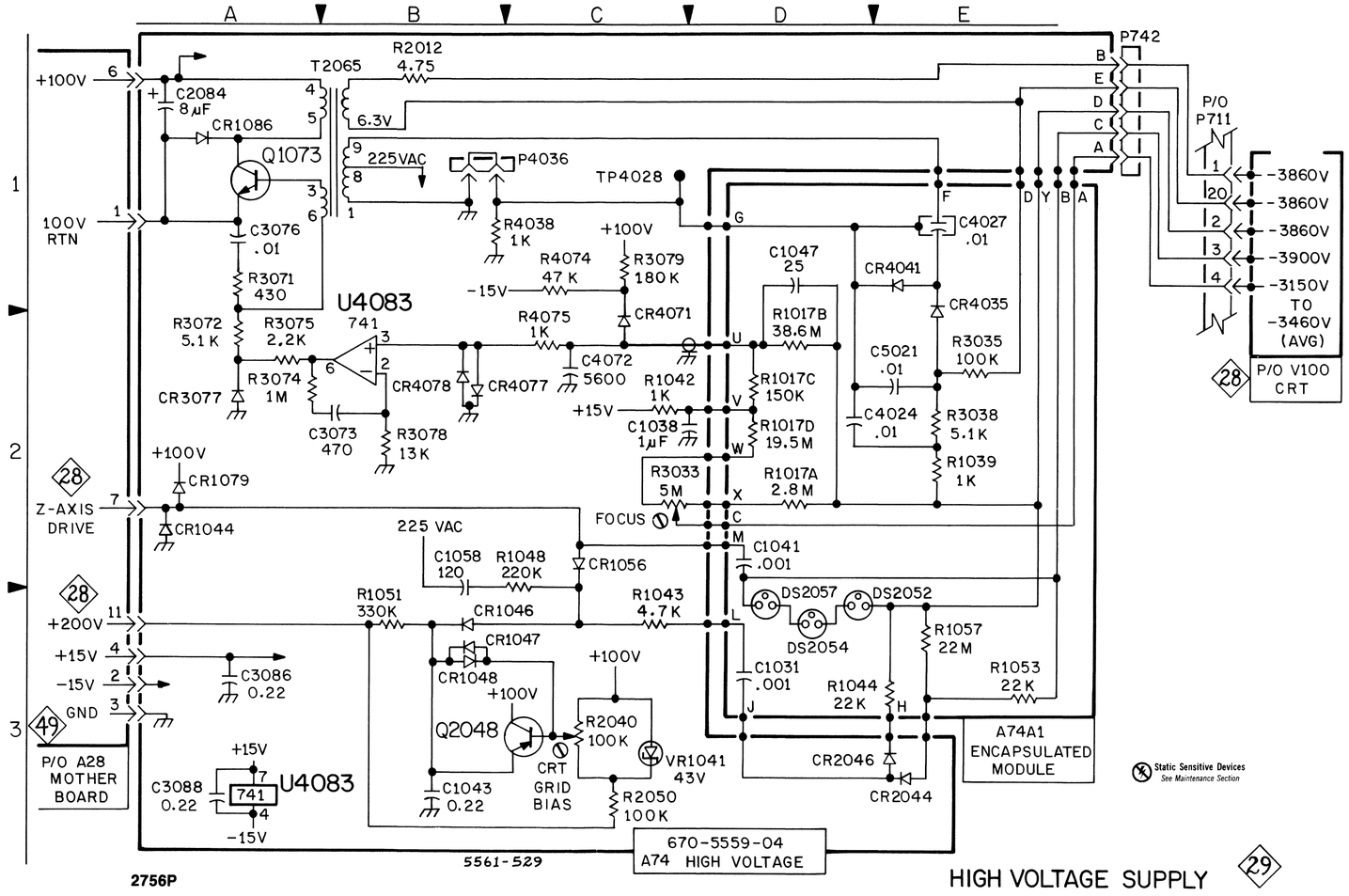
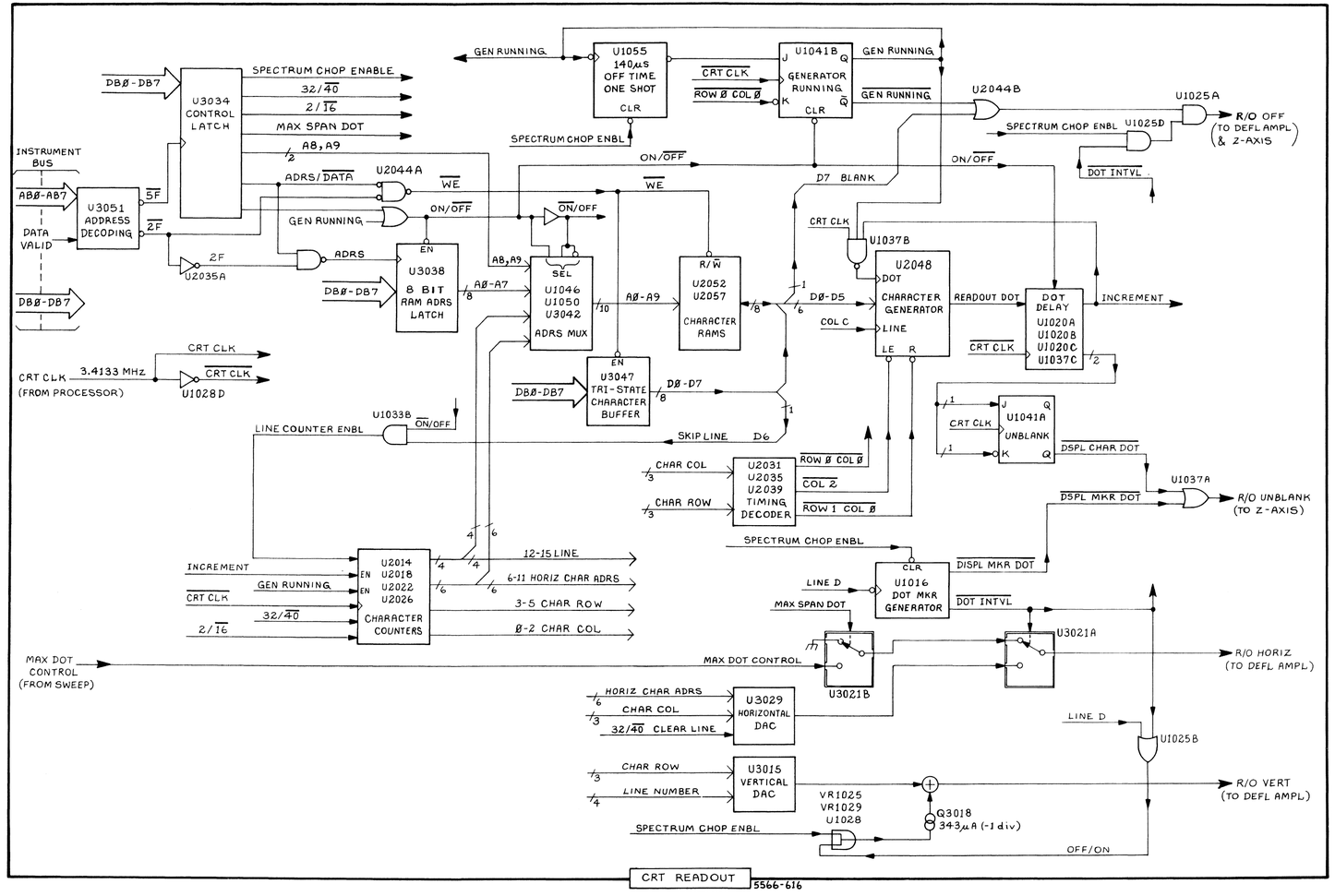
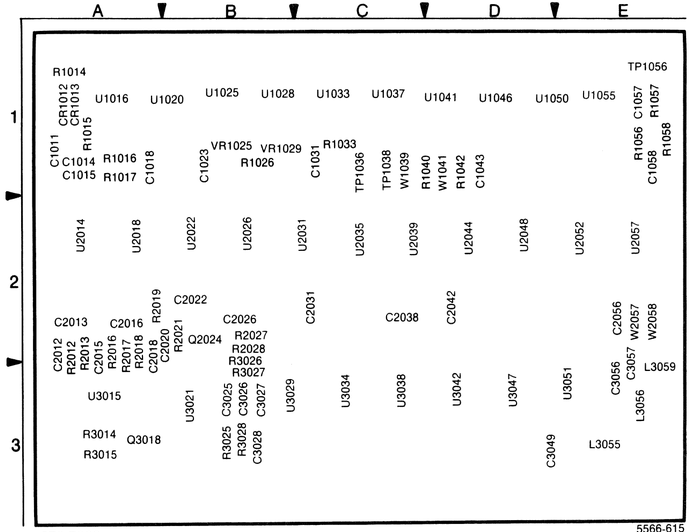
ASSEMBLY A74

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1038	C2	C1	Q2048	B3	D2
C1043	B3	D1			
C1058	B2	E1	R1042	C2	C1
C2084	A1	H2	R1043	C3	C2
C3073	B2	G3	R1048	B2	D1
C3076	A1	H3	R1051	B3	D1
C3086	A3	H3	R2012	B1	A2
C3088	A3	H3	R2040	C3	C2
C4072	C2	G4	R2050	C3	E2
			R3033	C2	C3
CR1044	A2	D1	R3071	A1	G3
CR1046	B3	D1	R3072	A2	G3
CR1047	B3	D1	R3074	A2	G3
CR1048	B3	D1	R3075	A2	G3
CR1056	C2	E1	R3078	B2	G3
CR1079	A2	G2	R3079	C1	G3
CR1086	A1	H1	R4038	C1	C4
CR2044	E3	B2	R4074	C1	G4
CR2046	D3	B2	R4075	C2	G4
CR3077	A2	G3			
CR4071	C2	F4	T2065	B1	F2
CR4077	B2	G4			
CR4078	B2	G4	TP4028	C1	B4
			U4083	A3	H4
P742	A2	A2	U4083	B1	H4
P4036	C1	B4			
			VR1041	C3	C1
Q1073	A1	G1			







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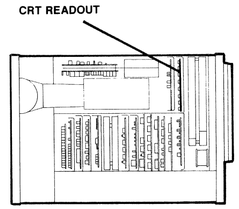
670-7902-

Fig. 10-42. A66A1—CRT Readout circuit board.



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CRT READOUT

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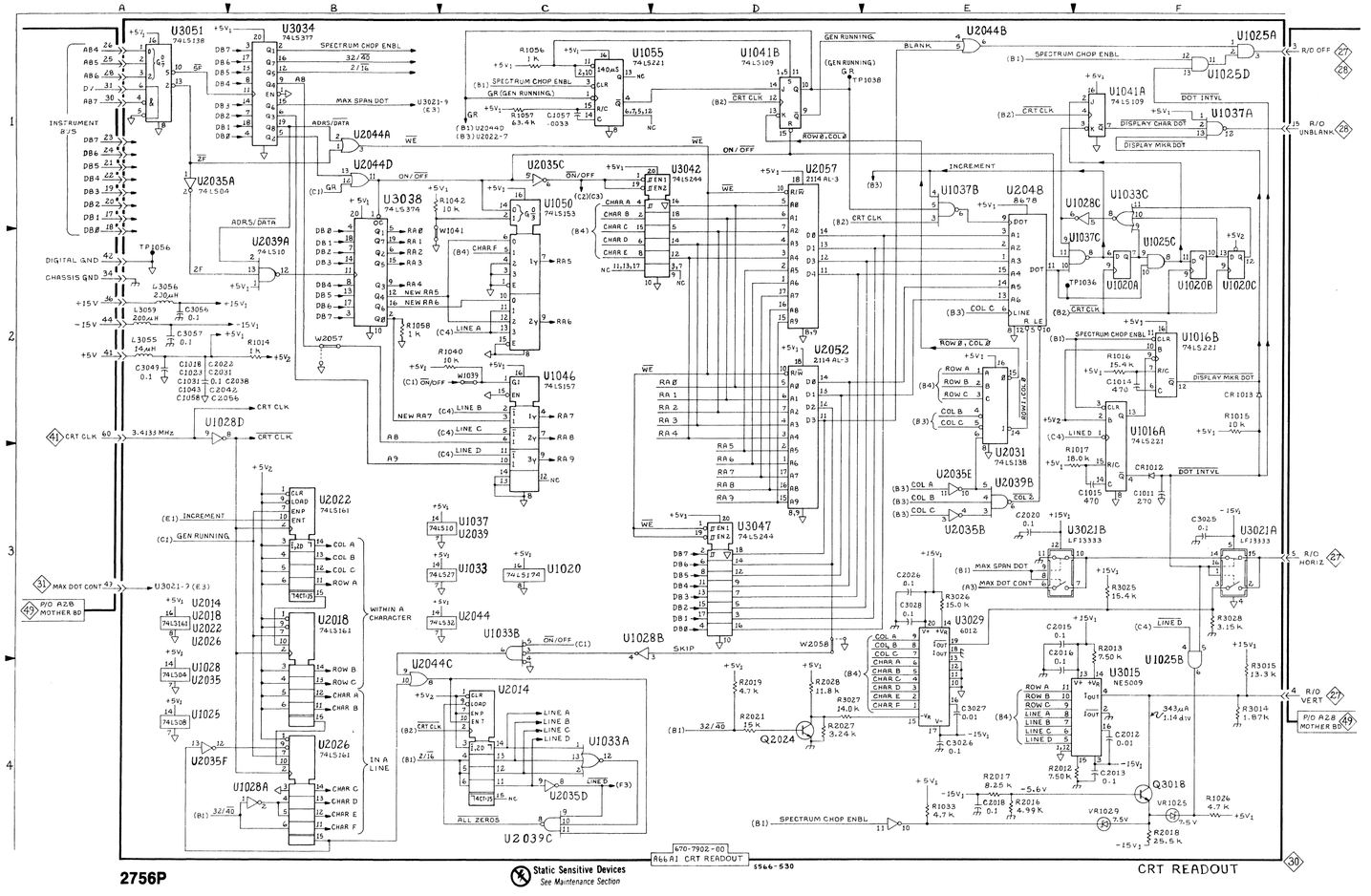
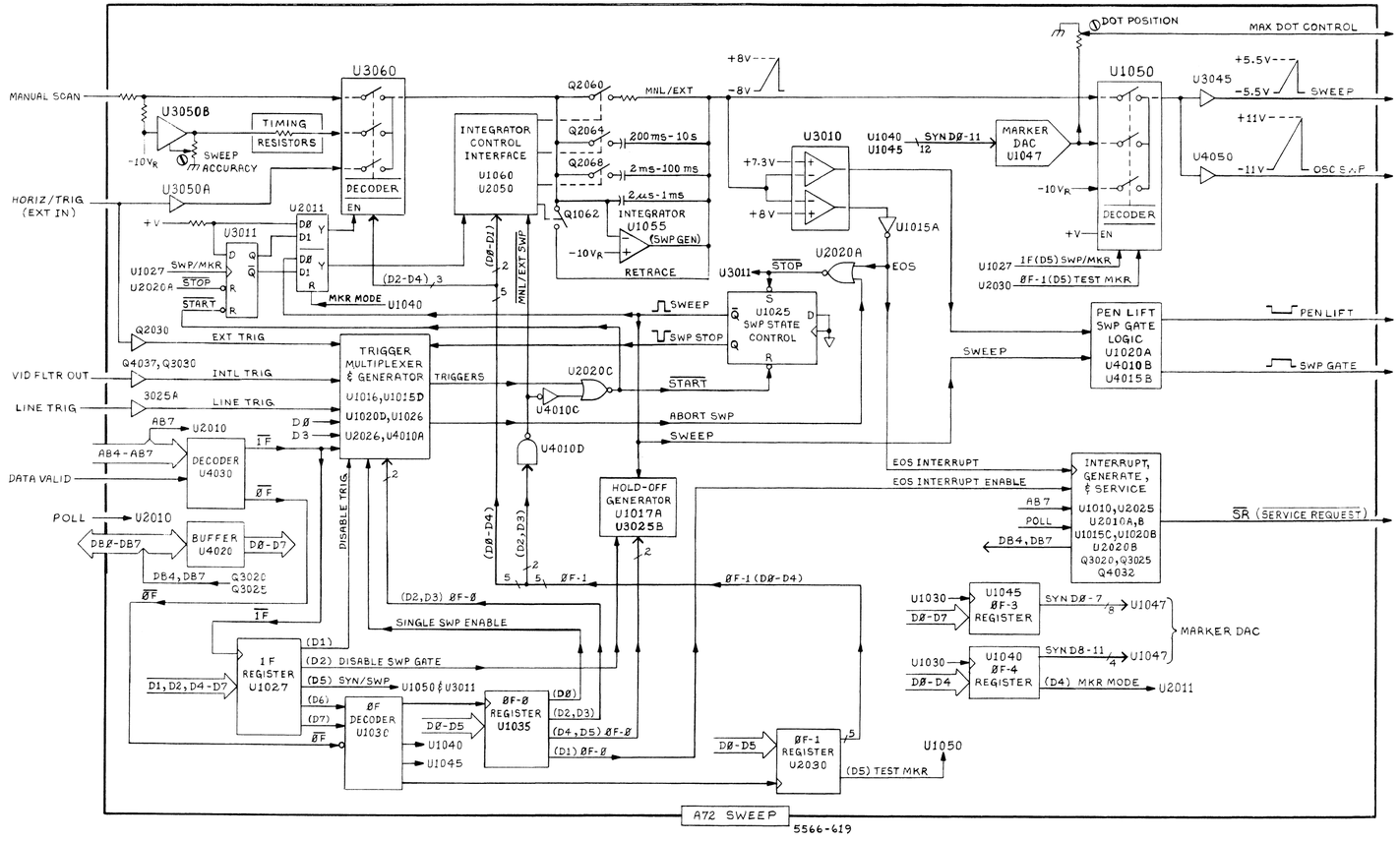
ASSEMBLY A66A1

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1011	F3	A1	R1057	C1	E1	U1050	C1	D1
C1014	F2	A1	R1058	B2	E1	U1055	C1	E1
C1015	F3	A1	R2012	E4	A2	U2014	A3	A2
C1018	A2	A1	R2013	F3	A2	U2014	C4	A2
C1023	A2	B1	R2016	E4	A2	U2018	A3	A2
C1031	A2	C1	R2017	E4	A2	U2018	B3	A2
C1043	A2	D1	R2018	F4	A2	U2022	A3	B2
C1057	C1	E1	R2019	D4	A2	U2022	B3	B2
C1058	A2	E1	R2021	D4	B2	U2026	A3	B2
C2012	F4	A2	R2027	D4	B2	U2026	B4	B2
C2013	F4	A2	R2028	D4	B2	U2031	E2	C2
C2015	E3	A2	R3014	F4	A3	U2035B	E3	C2
C2016	E3	A2	R3015	F4	A3	U2035C	C1	C2
C2018	E4	A2	R3025	F3	B3	U2035D	C4	C2
C2020	E3	A2	R3026	E3	B3	U2035E	E3	C2
C2022	A2	B2	R3027	D4	B3	U2035F	A4	C2
C2026	E3	B2	R3028	F3	B3	U2035	A1	C2
C2031	A2	C2				U2035	A4	C2
C2038	A2	C2	TP1036	F2	C1	U2039B	E3	C2
C2042	A2	D2	TP1038	D1	C1	U2039C	C4	C2
C2056	A2	E2	TP1056	A2	E1	U2039	B2	C2
C3025	F3	B3				U2039	C3	C2
C3026	E4	B3	U1016A	F2	A1	U2044A	B1	D2
C3027	E4	B3	U1016B	F2	A1	U2044B	E1	D2
C3028	E3	B3	U1020A	F2	B1	U2044C	B4	D2
C3049	A2	D3	U1020B	F2	B1	U2044C	B4	D2
C3056	A2	E3	U1020C	F2	B1	U2044D	B1	D2
C3057	A2	E3	U1020	C3	B1	U2044	C3	D2
			U1025A	F1	B1	U2048	E1	D2
CR1012	F3	A1	U1025B	F4	B1	U2052	D2	E2
CR1013	F2	A1	U1025C	F1	B1	U2057	D1	E2
			U1025D	F1	B1	U3015	F4	A3
L3055	A2	E3	U1025	A4	B1	U3021A	F3	B3
L3056	A2	E3	U1028A	B4	B1	U3021B	F3	B3
L3059	A2	E3	U1028B	C3	B1	U3029	E3	B3
			U1028C	F1	B1	U3034	B1	C3
Q2024	D4	B2	U1028	A4	B1	U3038	B1	C3
Q3018	F4	A3	U1033A	C4	C1	U3042	D1	D3
			U1033B	C3	C1	U3047	D3	D3
R1014	B2	A1	U1033C	F1	C1	U3051	A1	E3
R1015	F2	A1	U1033	C3	C1			
R1016	F2	A1	U1037A	F1	C1	VR1025	F4	B1
R1017	F2	A1	U1037B	E1	C1	VR1029	F4	B1
R1026	F4	B1	U1037C	F1	C1			
R1033	E4	C1	U1037	C3	C1	W1039	C2	C1
R1040	C2	C1	U1041A	F1	D1	W1041	C1	D1
R1042	C1	D1	U1041B	D1	D1	W2057	B2	E2
R1056	C1	E1	U1046	C2	D1	W2058	D3	E2





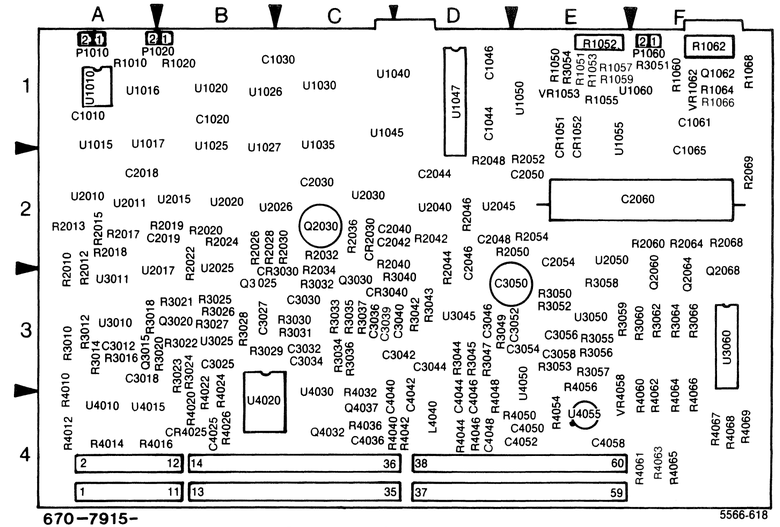
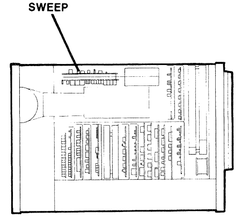


Fig. 10-43. A72—Sweep circuit board.



SWEEP BLOCK DIAGRAM & CKT BD ILLUS

SWEEP

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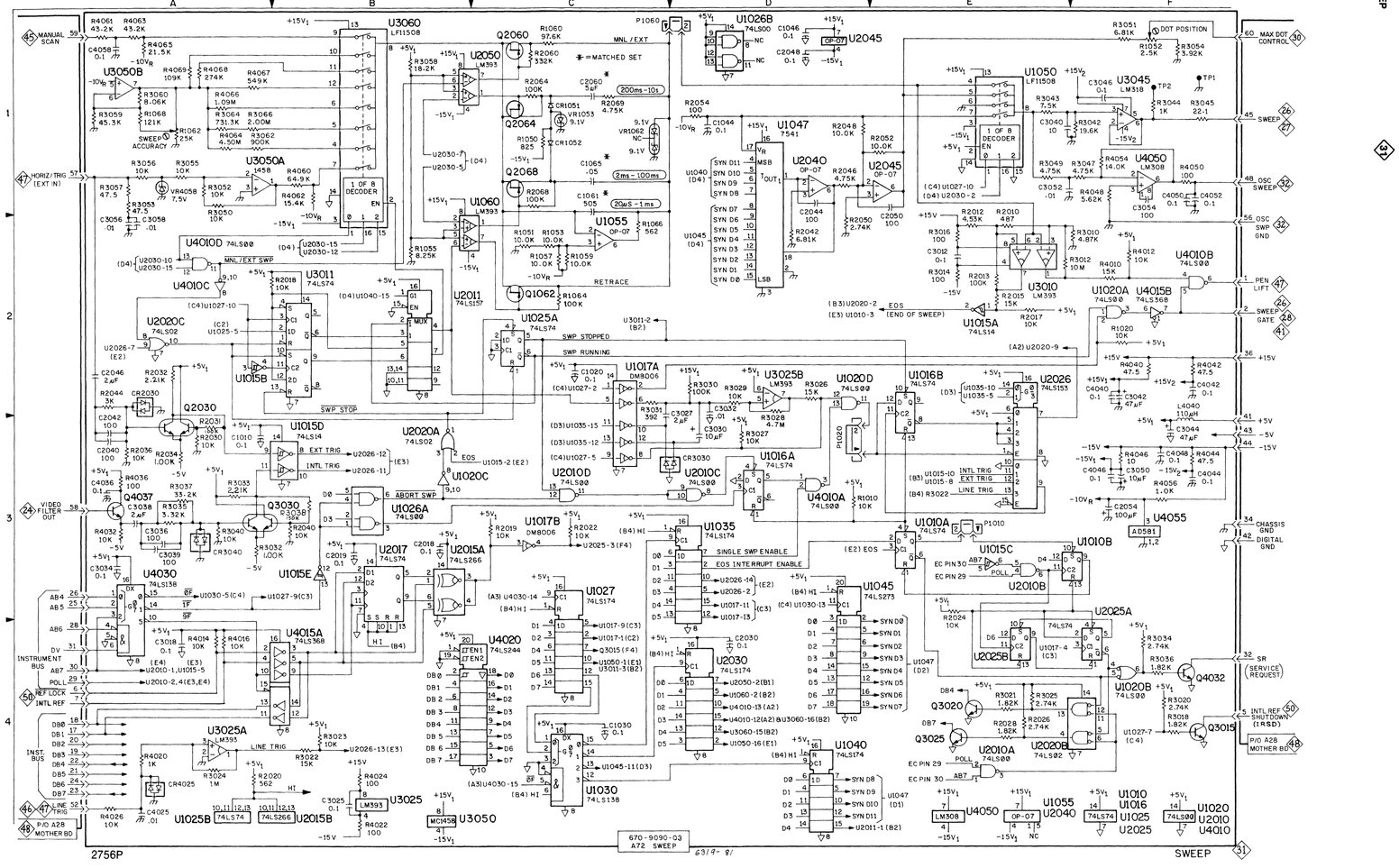
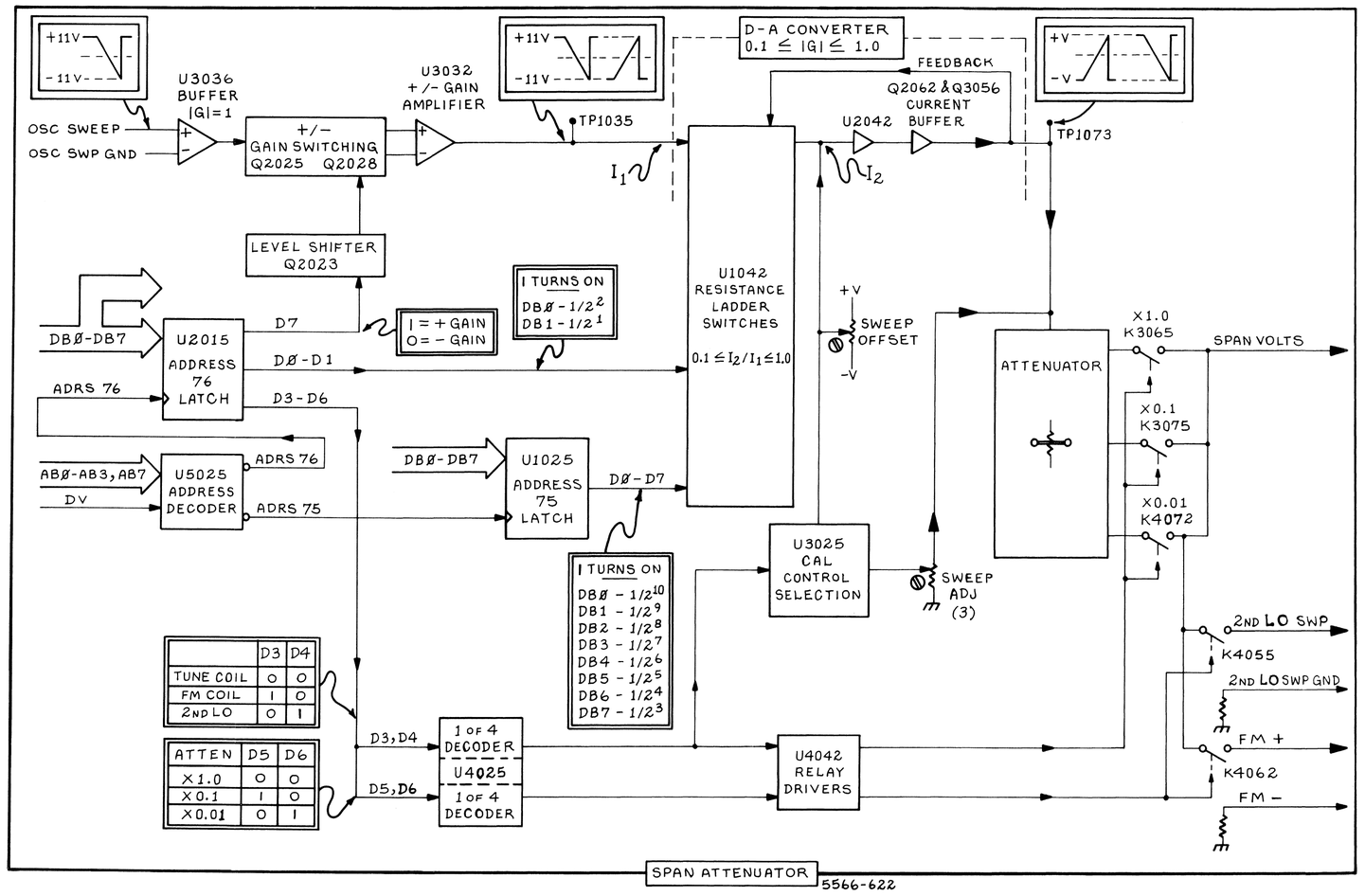
ASSEMBLY A72

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1010	A3	A1
C1020	C2	B1
C1030	C4	C1
C1044	D1	D1
C1046	D1	D1
C1061	C1	F1
C1065	C1	F2
C2018	B3	A2
C2019	B3	B2
C2030	D4	C2
C2040	A3	C2
C2042	A3	C2
C2044	D1	D2
C2046	A2	D2
C2048	D1	D2
C2050	E1	E2
C2054	F3	E2
C2060	C1	F2
C3012	E2	A3
C3018	A4	A3
C3025	B4	B3
C3027	D2	B3
C3030	D3	C3
C3032	D2	C3
C3034	A3	C3
C3036	A3	C3
C3036	A3	C3
C3039	A3	C3
C3039	A3	C3
C3040	E1	D3
C3042	F2	D3
C3044	F3	D3
C3046	F1	D3
C3050	F3	D3
C3052	E1	E3
C3054	F1	E3
C3056	A2	E3
C3058	A2	E3
C4025	A4	B4
C4036	A3	C4
C4040	F2	C4
C4042	F2	D4
C4044	F3	D4
C4046	F3	D4
C4048	F3	D4
C4050	F1	E4
C4052	F1	E4
C4058	A1	E4
CR1051	C1	E1
CR1052	C1	E1
CR2030	A2	C2
CR3030	D3	C3
CR3040	A3	C3
CR4025	A4	B4
L4040	F2	D4
P1010	E3	A1
P1020	D3	A1
P1060	C1	F1
Q1062	C2	F1
Q2030	A2	C2
Q2060	C1	F3
Q2064	C1	F3
Q2068	C1	F3
Q3015	C4	A3
Q3015	F4	A3
Q3020	E4	B3
Q3025	E4	B3
Q3030	B3	C3
Q4032	F4	C4
Q4037	A3	C4
R1010	D3	A1
R1020	F2	B1
R1050	C1	E1
R1051	C2	E1
R1052	F1	E1
R1053	C2	E1
R1055	B2	E1
R1057	C2	E1
R1059	C2	E1
R1060	C1	F1
R1062	A1	F1
R1064	C2	F1
R1066	C2	F1
R1068	\1	F1
R2010	E1	A3
R2012	E1	A3
R2013	E2	A2
R2015	E2	A2
R2017	E2	A2
R2018	B2	A2
R2019	C3	B2
R2020	A4	B2
R2022	C3	B2
R2024	E3	B2
R2026	E4	B2
R2028	E4	B2
R2030	A3	C2
R2032	A2	C2
R2034	A3	C3
R2036	A3	C2
R2040	B3	C2
R2042	D2	D2
R2044	A2	D2
R2046	D1	D2
R2048	D1	D2
R2050	D1	D2
R2052	E1	E2
R2054	D1	E2
R2060	C1	F2
R2064	C1	F2
R2068	C1	F2
R2069	C1	F2
R3010	F2	A3
R3012	F2	A3
R3014	E2	A3
R3016	E2	A3
R3018	F4	A3
R3020	F4	B3
R3021	E4	B3
R3022	B4	B3
R3023	B4	B3
R3024	A4	B3
R3025	E4	B3
R3026	D2	B3
R3027	D3	B3
R3028	D3	B3
R3029	D2	B3
R3030	D2	C3
R3030	F4	C3
R3031	C2	C3
R3032	A3	C3
R3033	A3	C3
R3034	F4	C3
R3035	A3	C3
R3036	F4	C3
R3037	A3	C3
R3038*	A3	
R3040	A3	D3
R3042	F1	D3
R3043	E1	D3
R3044	F1	D3
R3045	F1	D3
R3047	F1	D3
R3049	E1	D3
R3050	A1	E3
R3051	F1	F1
R3052	A1	E3
R3053	A1	E3
R3054	F1	E3
R3055	A1	E3
R3056	A1	E3
R3057	A1	E3
R3058	B1	E3
R3059	A1	E3
R3060	A1	F3
R3062	A1	F3
R3064	A1	F3
R3066	A1	F3
R4010	F2	A3
R4012	F2	A4
R4014	A4	A4
R4016	A4	A4
R4020	A4	B4
U1010B	F3	A1
U1010A	E3	A1
U1010	F4	A1
U1015A	E2	A1
U1015B	A2	A1
U1015C	E3	A1
U1015D	B3	A1
U1015E	B3	A1
U1016A	D3	A1
U1016B	E2	A1
U1016	F4	A1
U1017A	C2	A1
U1017B	C3	A1
U1020A	F2	B1
U1020B	F4	B1
U1020C	B3	B1
U1020D	D2	B1
U1020	F4	B1
U1025A	C2	B2
U1025B	A4	B2
U1025	F4	B2
U1026A	B3	B1
U1026B	D1	B1
U1027	C3	B2
U1030	C4	C1
U1035	D3	C1
U1040	D4	D1
U1045	E3	C1
U1047	D1	D1
U2010A	E4	A2
U2010B	E3	A2
U2010C	D3	A2
U2010D	C3	A2
U2010	F4	A2
U2011	B2	A2
U2015A	B3	B2
U2015B	B4	B2
U2017	B3	B3
U2020A	B3	B2
U2020B	E4	B2
U2020C	A2	B2
U2025A	F3	B3
U2025B	E4	B3
U2025	F4	B3
U2026	E2	C2
U2030	D4	C2
U2040	D1	D2
U2040	E4	D2
U2045	D1	D2
U2050	B1	E2
U3010	E2	A3
U3011	B2	A3
U3025A	A4	B3
U3025B	D2	B3
U3025	B4	B3
U3045	F1	D3
U3050A	A1	E3
U3050B	A1	E3
U3060	B1	F3
U4010A	D3	A4
U4010B	D2	A4
U4010C	D2	A4
U4010D	A4	A4
U4015A	A4	B4
U4015B	F2	A4
U4020	C4	B4
U4030	A3	C3
U4050	E4	E3
U4050	F1	E3
U4055	F3	E4
VR1053	C1	E1
VR1062	C1	F1
VR4058	A1	E3

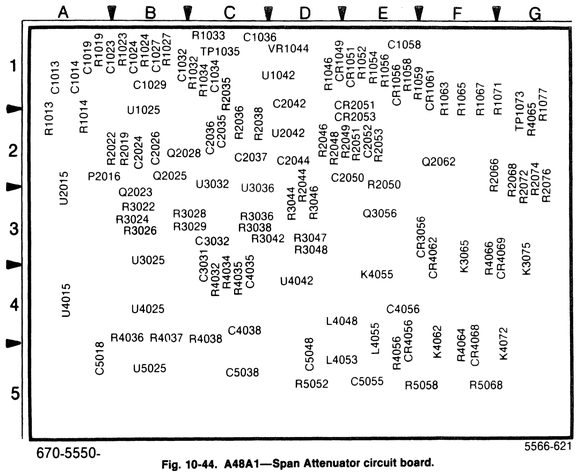
* On back of board





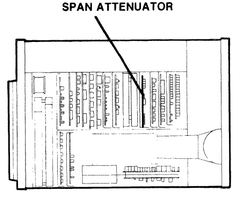
	D3	D4
TUNE COIL	0	0
FM COIL	1	0
2ND LO	0	1

ATTEN	D5	D6
X1.0	0	0
X0.1	1	0
X0.01	0	1



670-5550-

Fig. 10-44. A48A1—Span Attenuator circuit board.

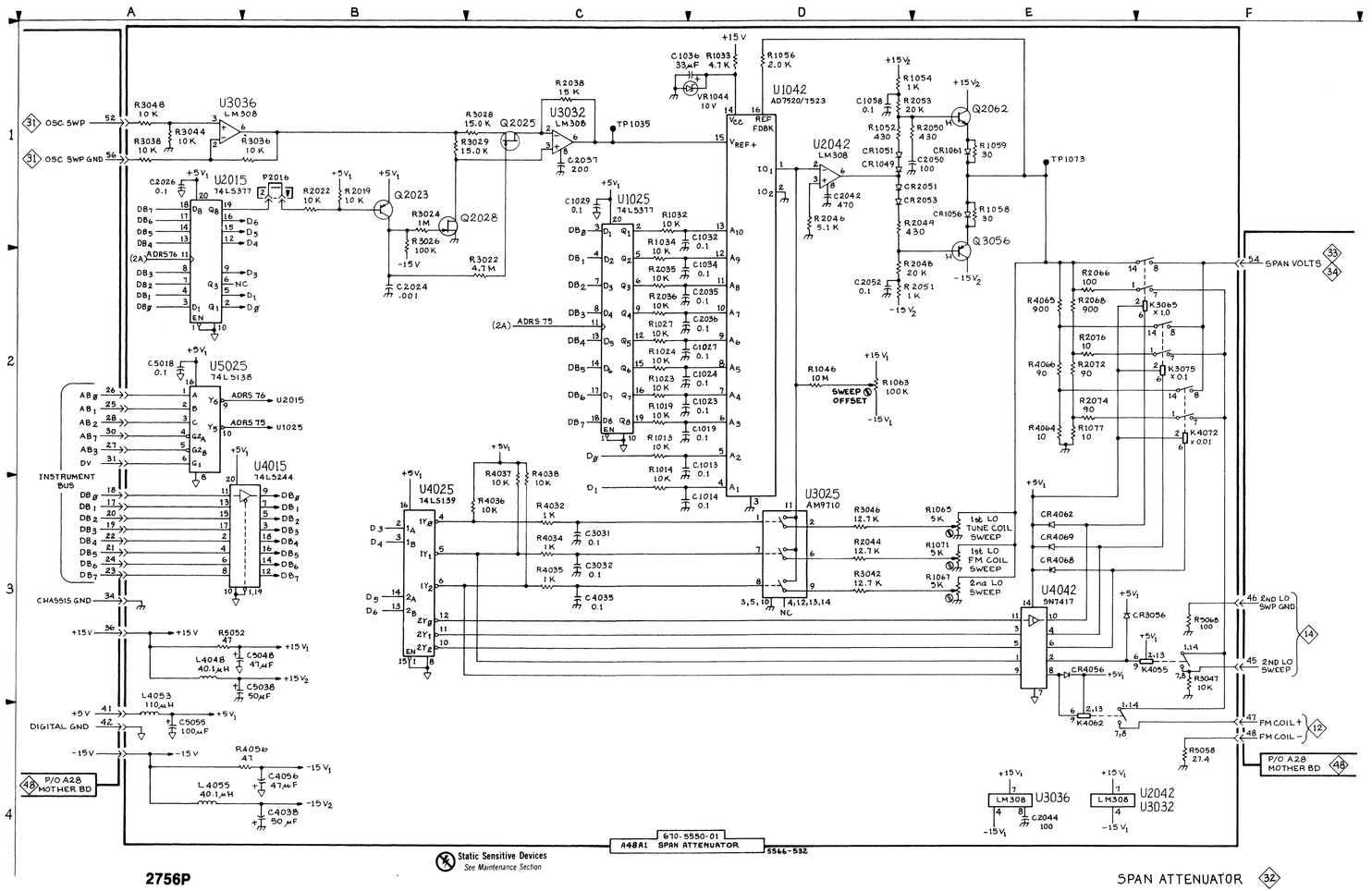


SPAN ATTENUATOR

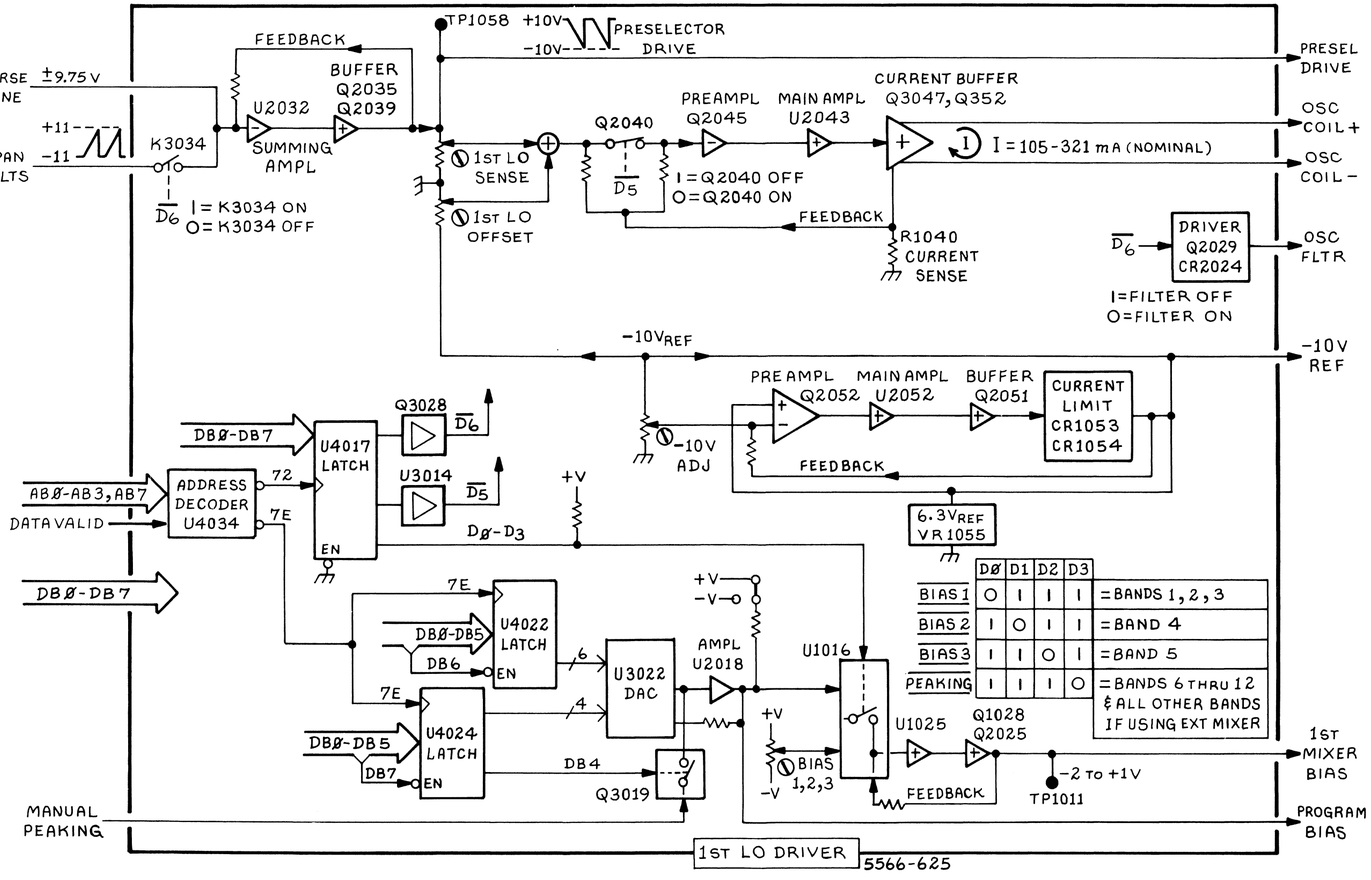
32

ASSEMBLY A48A1

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1013	D2	A1	L4048	A3	D4	R2076	E2	G3
C1014	D3	A1	L4053	A3	D4	R3022	C2	B3
C1019	D2	A1	L4055	A4	E4	R3024	B1	B3
C1023	D2	A1				R3026	B1	B3
C1024	D2	B2	P2016	B1	A2	R3029	C1	B3
C1027	D2	B1				R3036	B1	C3
C1029	C1	B1	Q2023	B1	B3	R3038	A1	C3
C1032	D1	B1	Q2025	C1	B2	R3038	C1	C3
C1034	D2	C1	Q2028	C1	B2	R3042	D3	C3
C1036	C1	C1	Q2062	E1	F2	R3044	A1	D3
C1058	D1	E1	Q3056	E1	E3	R3046	D3	D3
C2024	B2	B2				R3047	F3	D3
C2026	A1	B2	R1013	C2	A2	R3048	A1	D3
C2035	D2	C2	R1014	C2	A2	R4032	C3	C4
C2036	D2	C2	R1019	C2	A1	R4034	C3	C4
C2037	C1	C2	R1023	C2	B1	R4035	C3	C4
C2042	D1	D1	R1024	C2	B1	R4036	C3	B4
C2044	E4	D2	R1027	C2	B1	R4037	C2	B4
C2050	E1	E2	R1032	C1	C1	R4038	C2	C4
C2052	D2	E2	R1033	D1	C1	R4056	B4	E5
C3031	C3	C4	R1034	C1	C1	R4064	E2	F5
C3032	C3	C4	R1046	D2	D1	R4065	E2	G2
C4035	C3	C4	R1052	D1	E1	R4066	E2	F3
C4038	B4	C4	R1054	E1	E1	R5052	A3	D4
C4056	B4	E4	R1056	D1	E1	R5058	F4	E5
C5018	A2	A5	R1058	E1	E1	R5068	F3	F5
C5038	B3	C5	R1059	E1	E1			
C5048	B3	D4	R1063	D2	F1	TP1035	C1	C1
C5055	A4	E5	R1065	E3	F1	TP1073	E1	G2
			R1067	E3	F1			
CR1049	D1	D1	R1071	E3	F1	U1025	B2	B2
CR1051	D1	E1	R1077	E2	G2	U1025	C1	B2
CR1056	E1	E1	R2019	B1	B2	U1042	D1	D1
CR1061	E1	F1	R2022	B1	A2	U2015	A1	A2
CR2051	E1	E1	R2035	C2	C2	U2015	B2	A2
CR2053	E1	E2	R2036	C2	C2	U2042	D1	D2
CR3056	F3	E3	R2038	C1	C2	U2042	F4	D2
CR4056	E3	E4	R2044	D3	D3	U3025	D3	B3
CR4062	E3	F3	R2046	D1	D2	U3032	C1	C2
CR4068	E3	F5	R2048	E2	D2	U3032	F4	C2
CR4069	E3	G4	R2049	E1	E2	U3036	A1	C3
			R2050	E1	E2	U3036	E4	C3
K3065	F2	F3	R2051	E2	E2	U4015	B2	A4
K3075	F2	G4	R2053	E1	E2	U4025	B3	B4
K4055	F3	E4	R2066	E2	F2	U4042	E3	D4
K4062	E4	F5	R2068	E2	G3	U5025	A2	B5
K4072	F2	G5	R2072	E2	G3			
			R2074	E2	G3	VR1044	D1	D1



1st LO DRIVER BLOCK DIAGRAM & CKT BD ILLUS



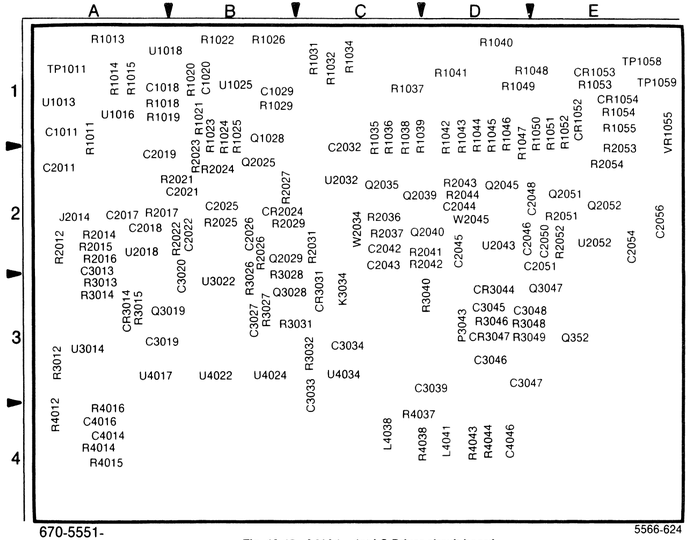
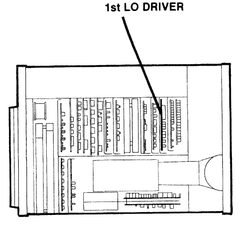


Fig. 10-45. A44A1—1st LO Driver circuit board.



1st LO DRIVER

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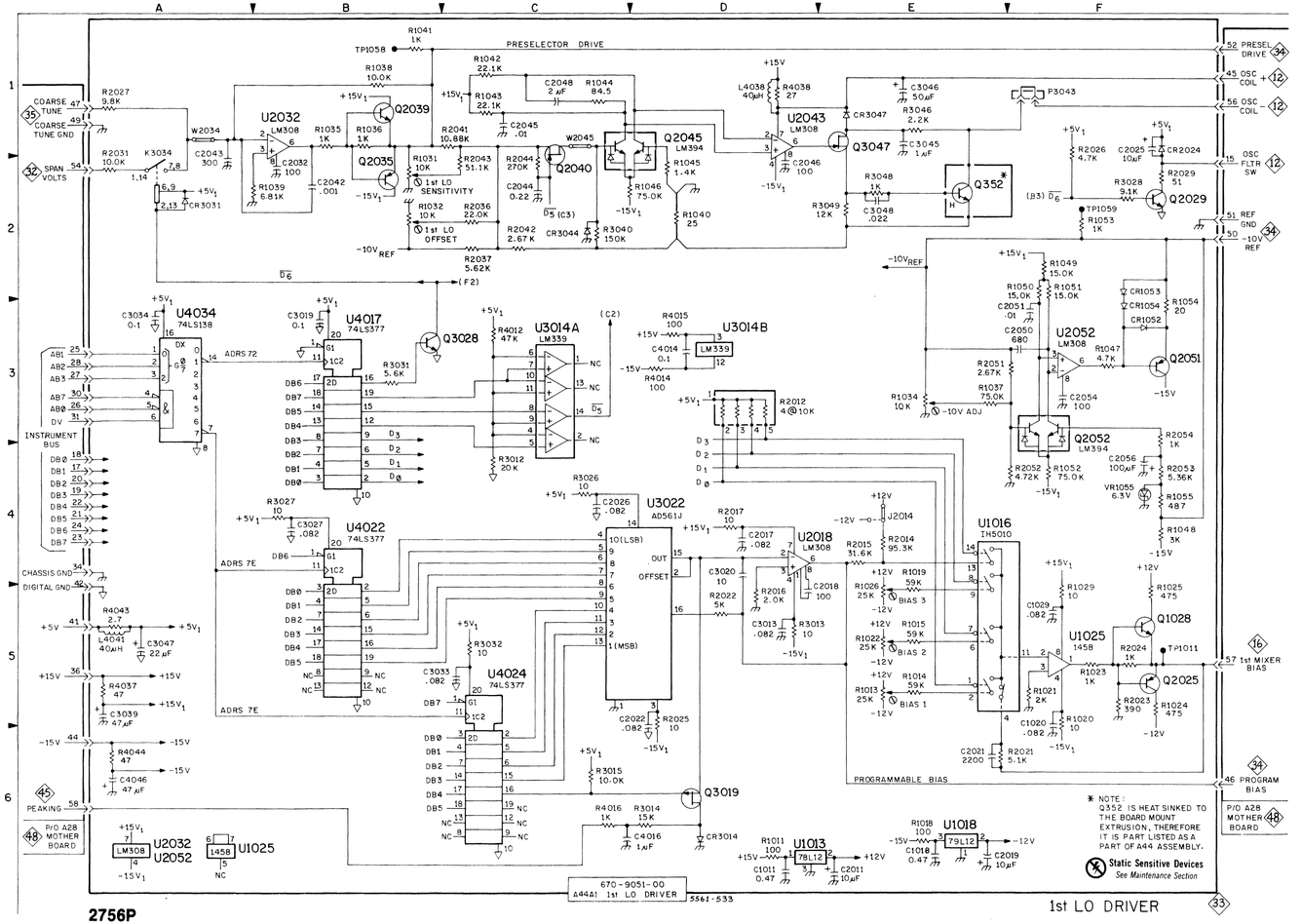
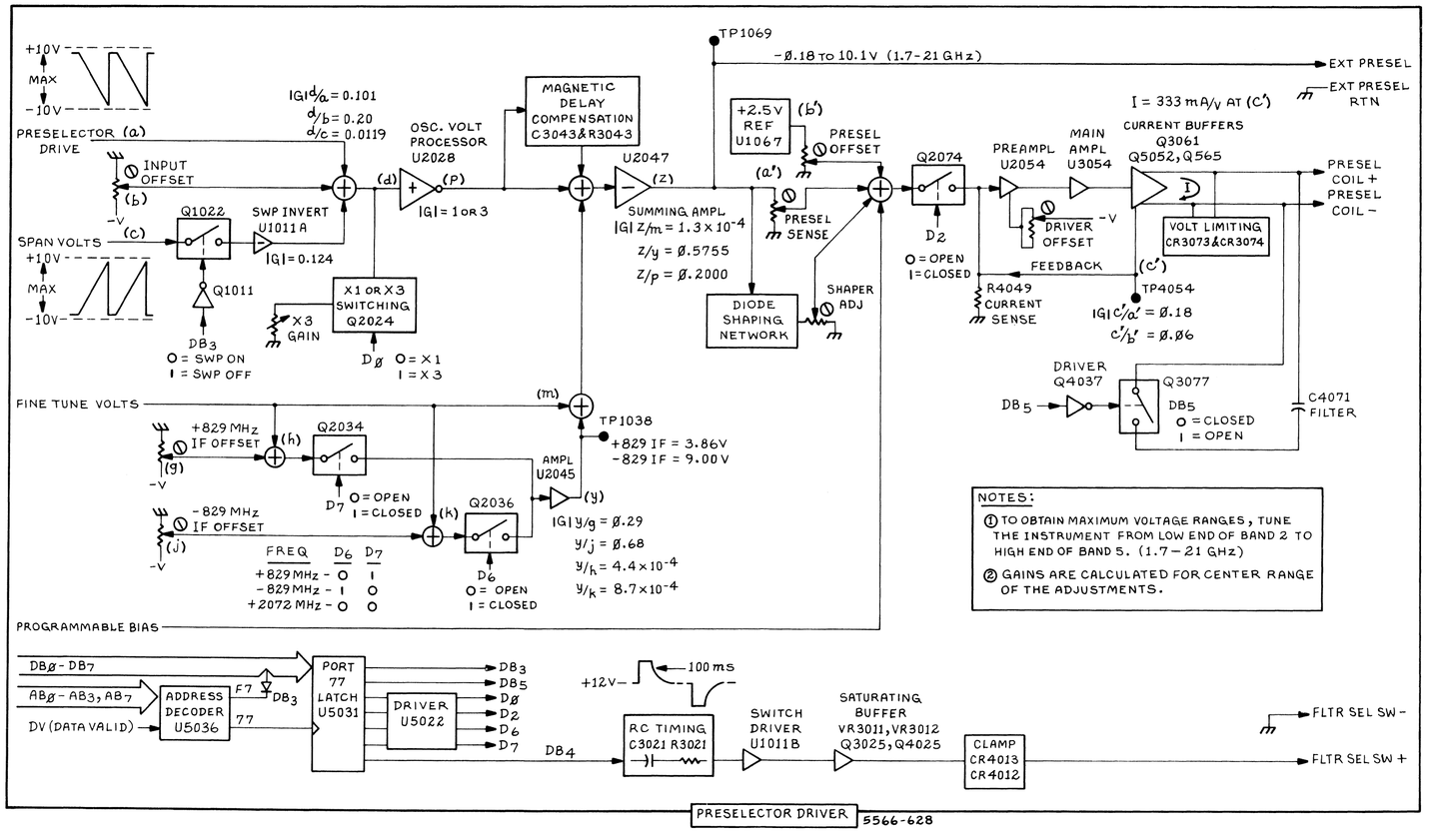
ASSEMBLY A44A1

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C2025	B3	B2
C2032	B2	C2
C2042	B1	C2
C2043	B1	C2
C2044	C3	D2
C2045	D2	D2
C2046	D2	D2
C2048	D2	D2
C2050	C4	D2
C2051	C4	D2
C2054	D4	E2
C2056	C5	E2
C3019	A3	A3
C3034	A2	C3
C3039	B4	D3
C3045	D2	D3
C3046	B4	D3
C3047	A4	D4
C3048	C3	D3
C4014	B5	A4
C4046	A5	D4
CR1052	D4	E1
CR1053	D4	E1
CR1054	D4	E1
CR2024	B3	B2
CR3031	B2	C3
CR3044	C3	D3
CR3047	D2	D3
K3034	B2	C3
L4038	B4	C4
L4041	A4	D4
P3043	D2	D3
Q2029	B3	B2
Q2035	C1	C2
Q2039	C1	C2
Q2040	C3	D2
Q2045	D2	D2
Q2051	D4	E2
Q2052	C4	E2
Q3028	B4	B3
Q3047	D2	D3
Q352	C3	E3

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
R1031	C2	C1
R1032	D1	C1
R1034	C4	C1
R1035	C1	C1
R1036	C1	C1
R1037	C4	C1
R1038	B1	C1
R1039	B2	C1
R1040	D3	D1
R1041	D1	D1
R1042	D2	D1
R1043	D2	D1
R1044	D2	D1
R1045	D3	D1
R1046	D3	D1
R1047	D4	D1
R1048	D4	D1
R1049	D4	D1
R1050	D4	D1
R1051	D4	E1
R1052	C4	E1
R1053	C3	E1
R1054	D4	E1
R1055	C4	E1
R2026	B3	B2
R2027	B1	B2
R2029	B3	B2
R2031	B1	C2
R2036	C1	C2
R2037	C3	C2
R2041	C1	D2
R2042	C3	D2
R2043	C2	D2
R2044	C3	D2
R2051	C4	E2
R2052	C4	E2
R2053	C5	E2
R2054	C5	E2
R3012	B3	A3
R3028	B3	B3
R3031	B4	B3

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
R3046	D2	D3
R3048	C3	D3
R3049	D3	D3
R4012	B2	A4
R4014	B5	A4
R4015	B5	A4
R4037	B4	C4
R4038	B4	C4
R4043	A4	D4
R4044	A4	D4
TP1058	D1	E1
TP1059	C3	E1
U2032	B1	C2
U2032	A5	C2
U2043	D2	D2
U2043	A5	D2
U2052	D4	E2
U2052	A5	E2
U3014	C3	A3
U3014	B5	A3
U4017	A3	A4
U4034	A2	A4
VR1055	C5	E1
W2034	B1	C2
W2045	C3	D2





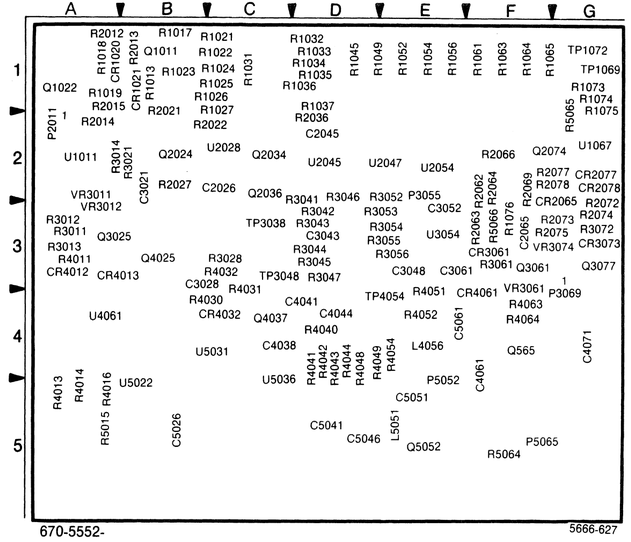
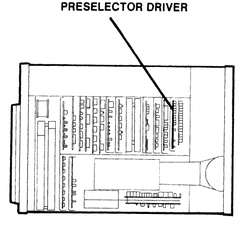


Fig. 10-46. A42A1—Preselector Driver circuit board.



PRESELECTOR DRIVER

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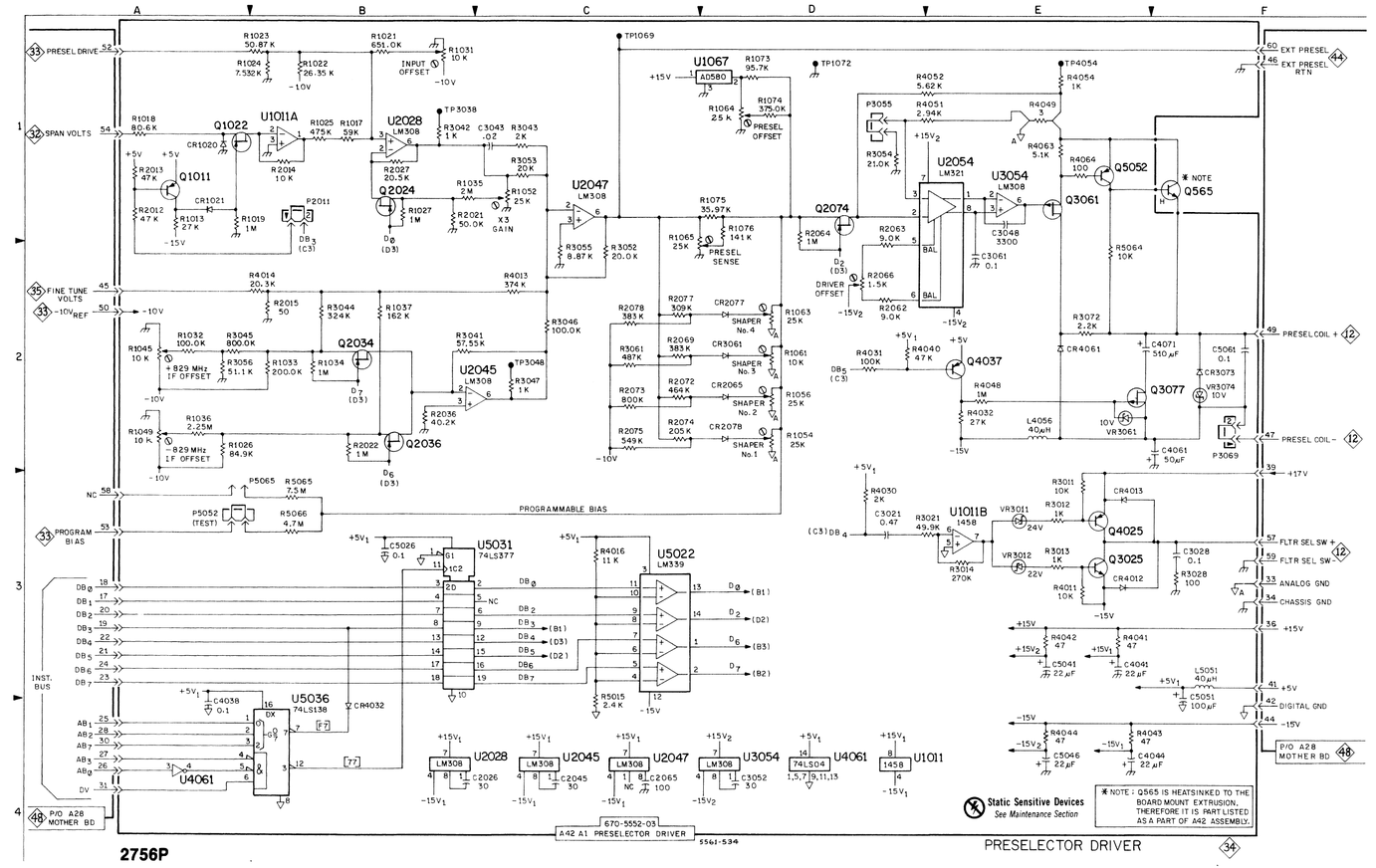
ASSEMBLY A42A1

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C2026	C4	C2
C2045	C4	D2
C2065	C4	F3
C3021	D3	B2
C3028	F3	B3
C3043	C1	D2
C3048	E1	E3
C3052	D4	E3
C3061	E2	E3
C4038	A4	C4
C4041	E3	D4
C4044	E4	D4
C4061	F2	F4
C4071	F2	G4
C5026	B3	B5
C5041	E3	D5
C5046	E4	D5
C5051	F4	E5
C5061	F2	E4
CR1020	A1	A1
CR1021	A1	B1
CR2065	D2	G2
CR2077	D2	G2
CR2078	D2	G2
CR3061	D2	F3
CR3061	E2	F3
CR3073	F2	G3
CR4012	E3	A2
CR4013	E3	A2
CR4032	B4	C4
L4056	E2	E4
L5051	F3	E5
P2011	B1	A2
P3055	D1	E2
P3069	F2	G3
P5052	A3	E5
P5065	B3	F5
Q1011	A1	B1
Q1022	A1	A1
Q2024	B1	B2
Q2034	B2	C2
Q2036	B2	C2
Q2074	D1	G2
Q3025	E3	A2
Q3061	E1	F3
Q3077	F2	G3
Q4025	E3	B3
Q4037	E2	C4
Q5052	E1	E5
R1013	A1	B1
R1017	B1	B1
R1018	A1	A1
R1019	B1	A1
R1021	B1	C1
R1022	B1	C1
R1023	B1	C1
R1024	B1	C1
R1025	B1	C1
R1026	A2	C1
R1027	B1	C1
R1031	B1	C1
R1032	A2	D1
R1033	B2	D1
R1034	B2	D1
R1035	B1	D1
R1036	A2	D1
R1037	B2	D1
R1045	A2	D1
R1049	A2	D1
R1052	C1	E1
R1054	D2	E1
R1056	D2	E1
R1061	D2	F1
R1063	D2	F1
R1064	D1	F1
R1065	C2	F1
R1073	D1	G1
R1074	D1	G1
R1075	D1	G1
R1076	D1	F3
R2012	A1	A1
R2013	A1	B1
R2014	B1	A2
R2015	B2	A1
R2021	B1	B1
R2022	B2	C2
R2027	B1	B2
R2036	B2	D2
R2062	D2	F2
R2063	D1	F3
R2064	D1	F2
R2066	D2	F2
R2069	C2	F2
R2072	C2	G2
R2073	C2	G3
R2074	C2	G3
R2075	C2	G3
R2078	C2	G2
R3011	E3	A2
R3012	E3	A2
R3013	E3	A2
R3014	E3	A2
R3021	D3	B2
R3028	F3	C3
R3041	C2	D2
R3042	B1	D2
R3043	C1	D2
R3044	B2	D2
R3045	A2	D2
R3046	C2	D2
R3047	C2	D2
R3052	C2	E2
R3053	C1	E3
R3054	D1	E3
R3055	C2	E3
R3056	A2	E3
R3061	C2	F3
R3072	E2	G3
R4011	E3	A2
R4013	C2	A4
R4014	B2	A4
R4030	D3	B4
R4031	D2	C3
R4032	A4	C3
R4040	D2	D4
R4041	E3	D4
R4042	E2	D4
R4043	E4	D4
R4044	E4	D4
R4048	E2	D4
R4049	E1	D4
R4051	E1	E4
R4052	E1	E4
R4054	E1	E4
R4063	E1	F4
R4064	E1	F4
R5015	C4	A4
R5064	E2	F5
R5065	B3	G2
R5066	B3	F3
TP1069	C1	G1
TP1072	D1	G1
TP3038	B1	C3
TP3048	C2	C3
TP4054	E1	E4
U1011A	B1	A2
U1011B	E3	A2
U1011	D4	A2
U1067	D1	G2
U2028	B1	C2
U2045	C2	D2
U2045	D2	D2
U2045	C2	D2
U3054	D4	E3
U3054	E1	E3
U4061	A4	A3
U4061	D4	A3
U5022	C3	B5
U5031	C3	C4
U5036	B4	C5
VR3011	E3	A2
VR3012	E3	A2
VR3074	F2	G3



PRESELECTOR DRIVER

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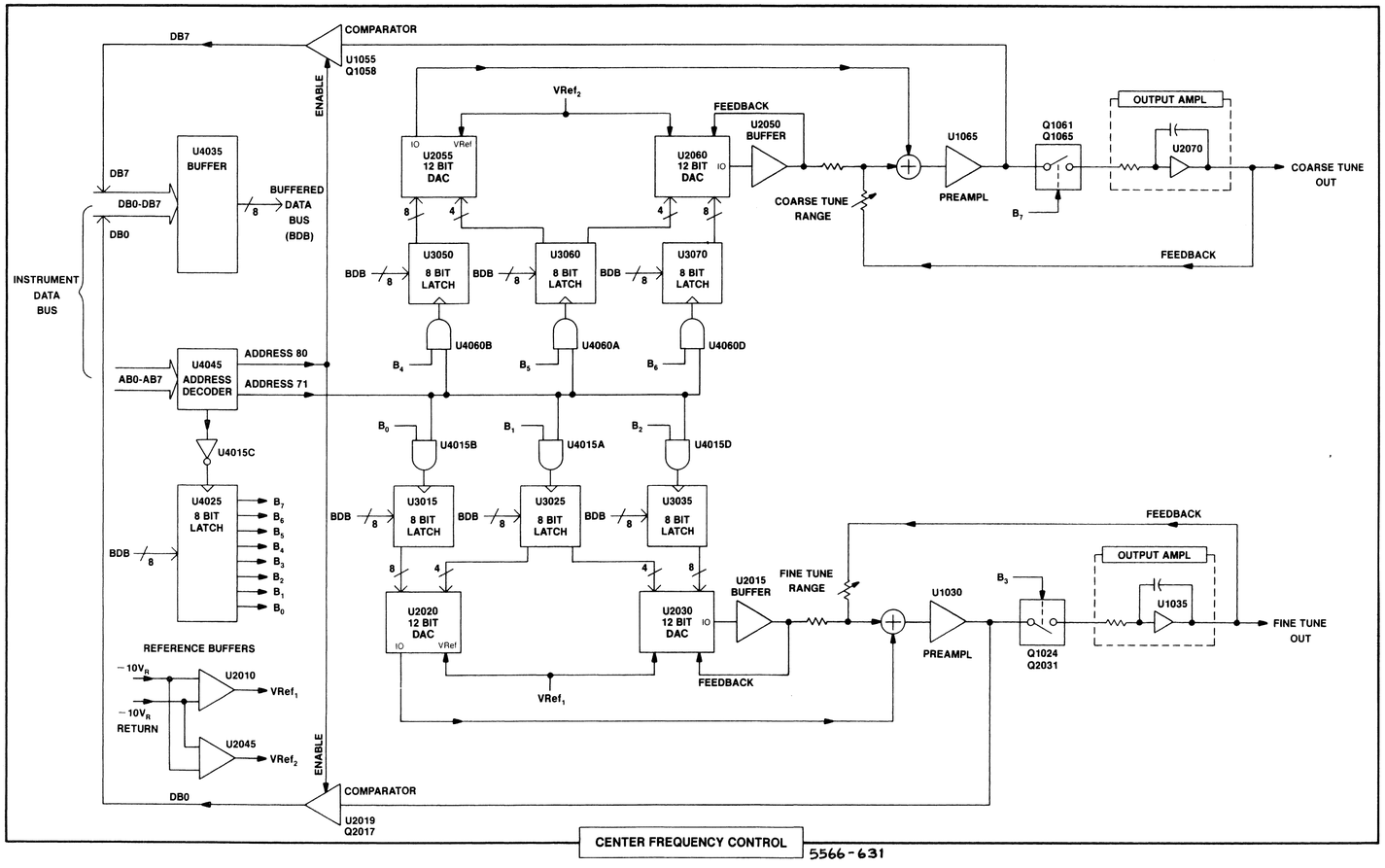

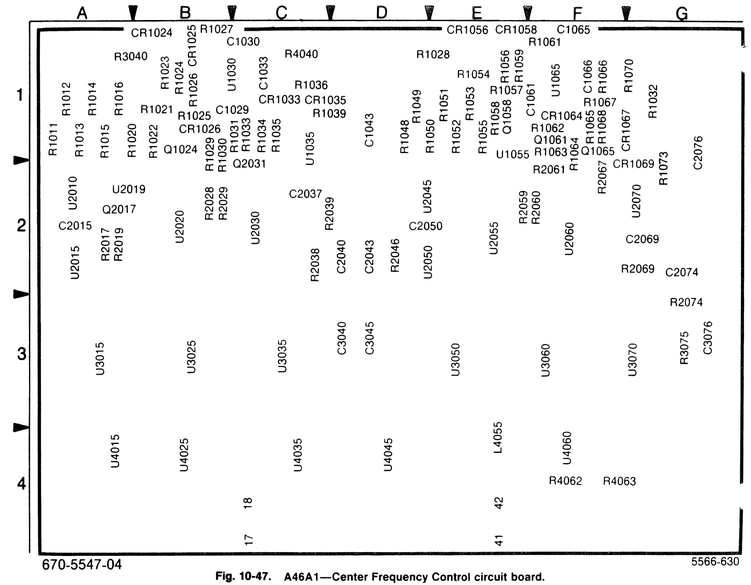

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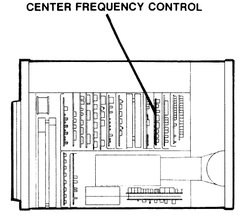
Fig. 10-47. A46A1—Center Frequency Control circuit board.



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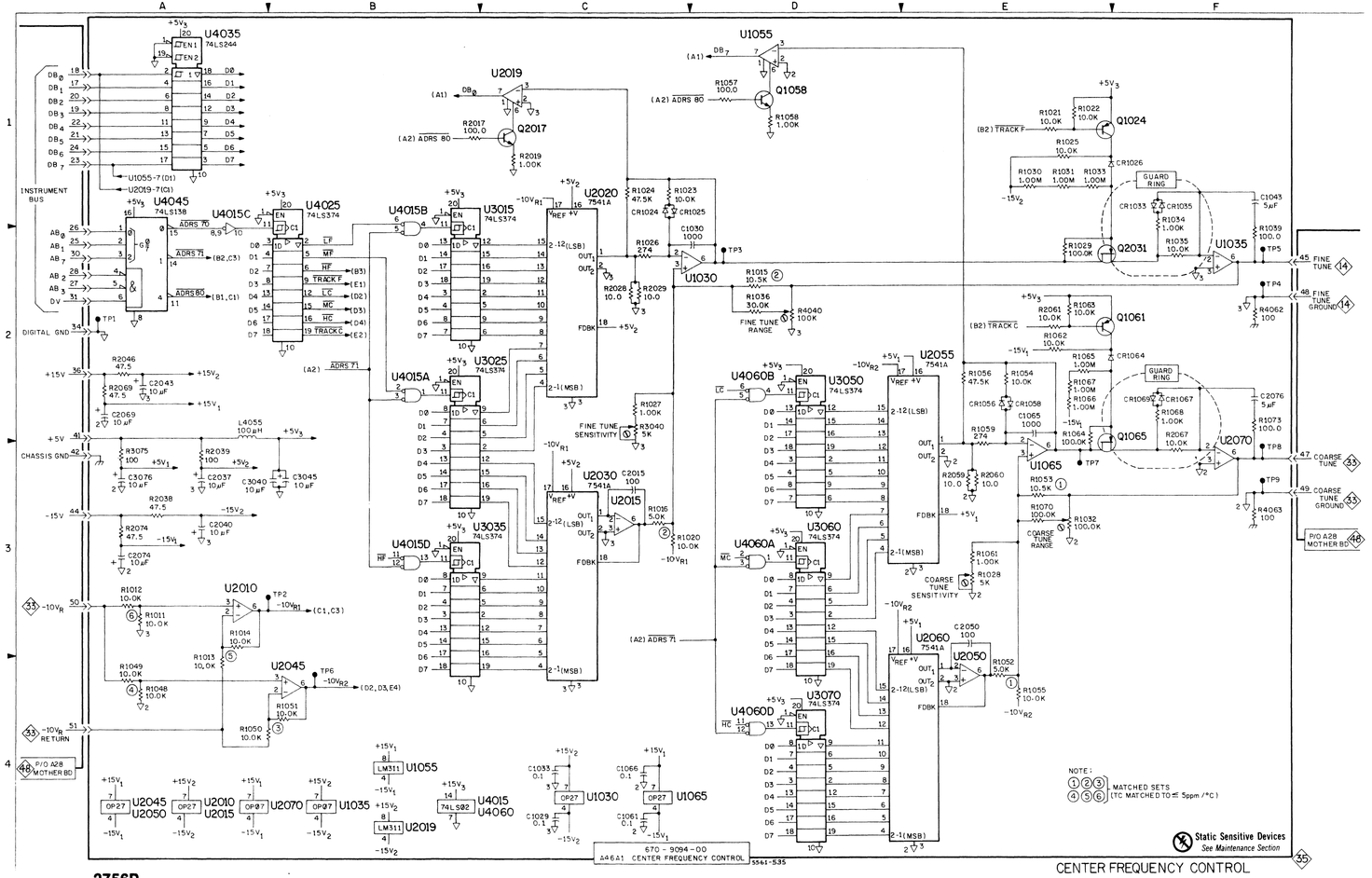
CTR FREQ CONT BLOCK DIAGRAM & CKT BD ILLUS

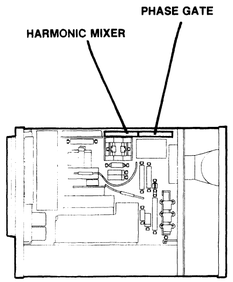
CENTER FREQUENCY CONTROL

ASSEMBLY A46A1

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1029	C4	B1
C1030	C2	C1
C1033	C4	C1
C1043	F1	D1
C1061	C4	F1
C1065	E2	F1
C1066	C4	F1
C2015	C3	A2
C2037	A3	C2
C2040	A3	D2
C2043	A2	D2
C2050	E3	D2
C2069	A2	G2
C2074	A3	G2
C2076	F2	G1
C3040	A3	D3
C3045	B3	D3
C3076	A3	G3
CR1024	C1	B1
CR1025	C1	B1
CR1026	F1	B1
CR1033	F1	C1
CR1035	F1	C1
CR1056	E2	E1
CR1058	E2	E1
CR1064	F2	F1
CR1067	F2	G1
CR1069	F2	G2
L4055	A2	E4
Q1024	F1	B1
Q1058	D1	E1
Q1061	F2	F1
Q1065	F2	F1
Q2017	C1	A2
Q2031	F2	C2
R1011	A3	A1
R1012	A3	A1
R1013	A4	A1
R1014	A3	A1
R1015	B4	A1
R1015	D2	A1
R1016	C3	A1
R1020	C3	A1
R1021	E1	B1
R1022	E1	B1
R1023	C1	B1
R1024	C1	B1
R1025	E1	B1
R1026	C2	B1
R1027	C2	B1
R1028	E3	D1
R1029	E2	B1
R1030	E1	B1
R1031	E1	C1
R1032	E3	G1
R1033	E1	C1
R1034	F1	C1
R1035	F2	C1
R1036	D2	C1
R1039	F2	C1
R1048	A4	D1
R1049	A4	D1
R1050	A4	D1
R1051	E4	E1
R1052	E4	E1
R1053	E3	E1
R1054	E2	E1
R1055	E4	E1
R1056	E2	E1
R1057	D1	E1
R1058	D1	E1
R1059	E2	E1
R1061	E3	F1
R1062	E2	F1
R1063	E2	F1
R1064	E2	F1
R1065	E2	F1
R1066	E2	F1
R1067	E2	F1
R1068	F2	F1
R1070	E3	G1
R1073	F2	G2
R1073	F2	G2
R2017	B1	A2
R2019	C1	A2
R2028	C2	B2
R2029	C2	B2
R2038	A3	C2
R2039	A3	C2
R2046	A2	D2
R2059	E3	E2
R2060	E3	F2
R2061	E2	F2
R2067	F2	F2
R2069	A2	G2
R2074	A3	G3
R3040	C2	A1
R3075	A3	G3
R4040	D2	C1
R4062	F2	G4
R4063	F3	G4
U1030	C4	B1
U1030	D2	B1
U1035	B4	C1
U1035	F2	C1
U1055	B4	E2
U1055	D1	E2
U1065	C4	F1
U1065	E3	F1
U2010	A3	A2
U2010	A4	A2
U2015	A4	A2
U2015	C3	A2
U2019	B4	A2
U2019	C1	A2
U2020	C1	B2
U2030	C3	C2
U2045	A4	D2
U2045	B4	D2
U2050	A4	D2
U2050	E4	D2
U2055	E2	E2
U2060	E3	F2
U2070	B4	G2
U2070	F3	G2
U3015	C1	A3
U3025	C2	B3
U3035	C3	C3
U3050	D2	E3
U3060	D3	F3
U3070	D4	F3
U4015A	B2	A4
U4015C	A1	A4
U4015D	B3	A4
U4015	B1	A4
U4015	C4	A4
U4025	B1	B4
U4035	A1	C4
U4045	A1	D4
U4060A	D3	G4
U4060B	D2	G4
U4060D	D4	G4
U4060	C4	G4



2756P



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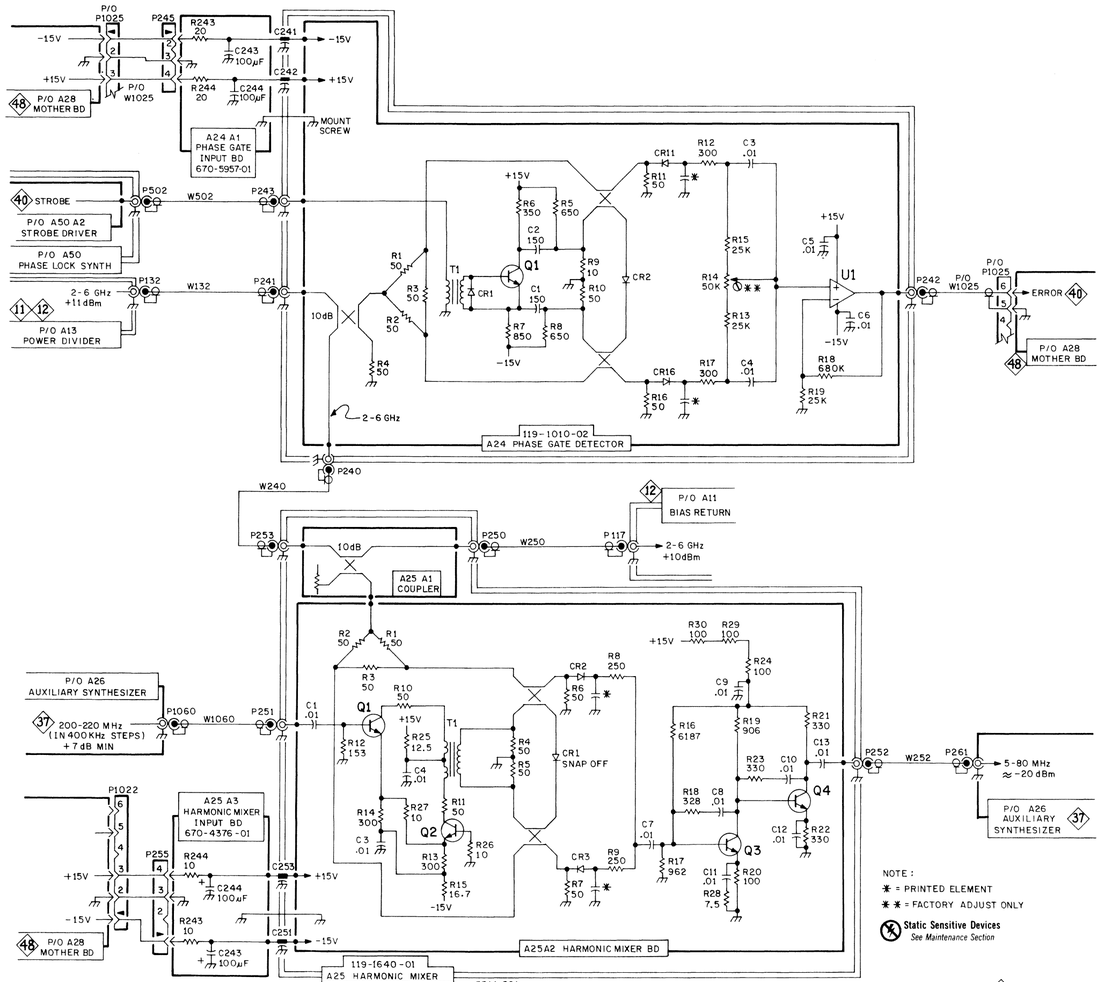

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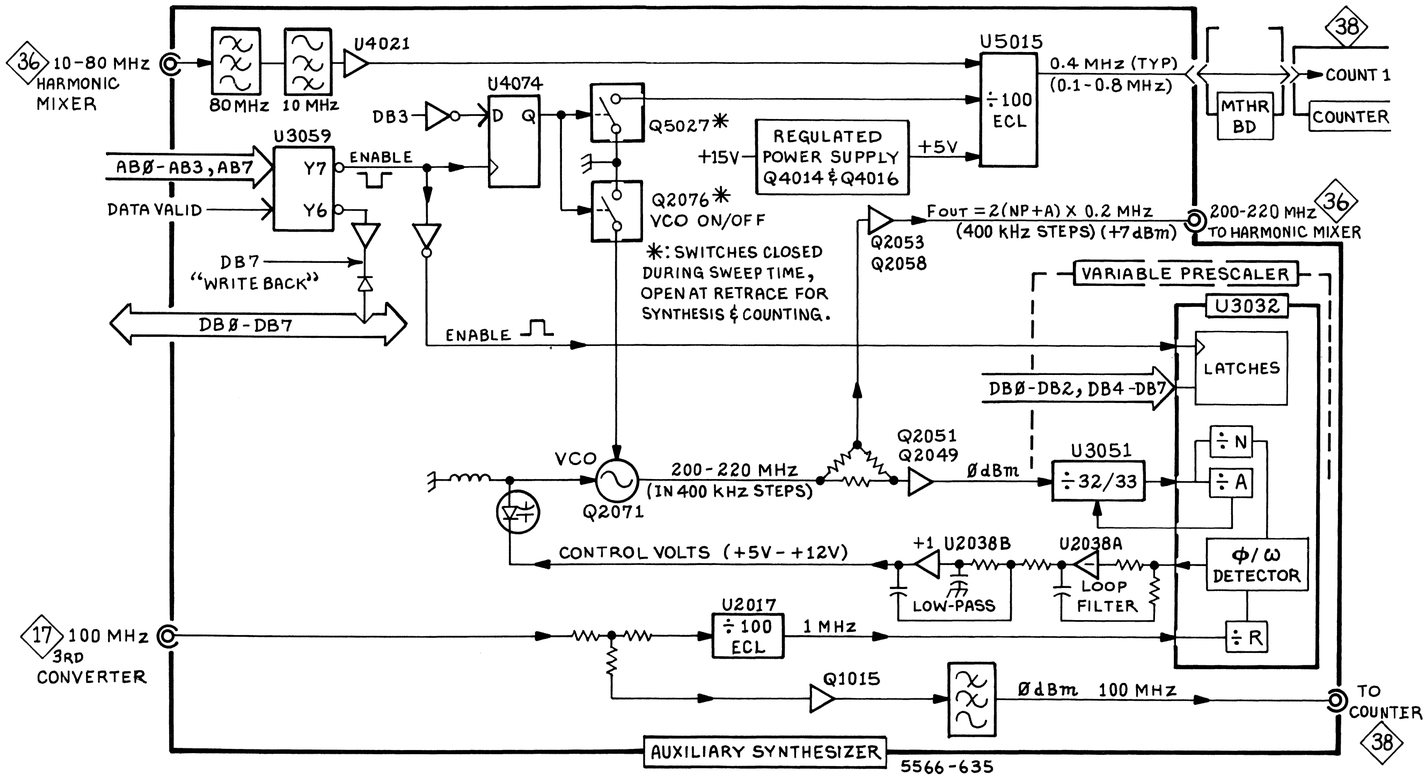
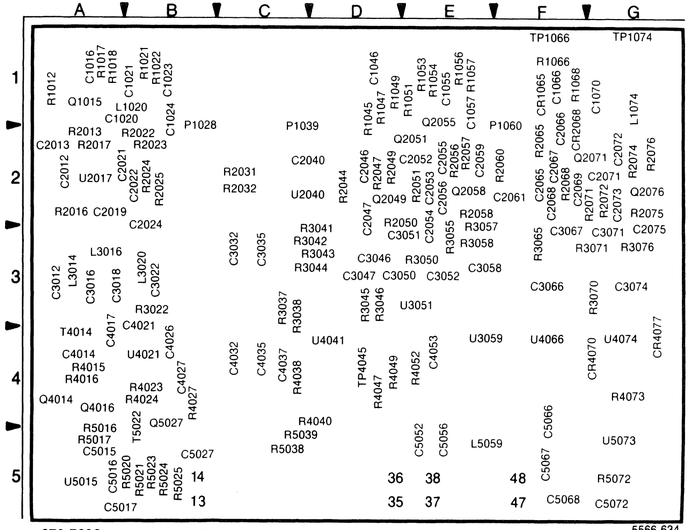
HARMONIC MIXER & PHASE GATE

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AUXILIARY SYNTHESIZER

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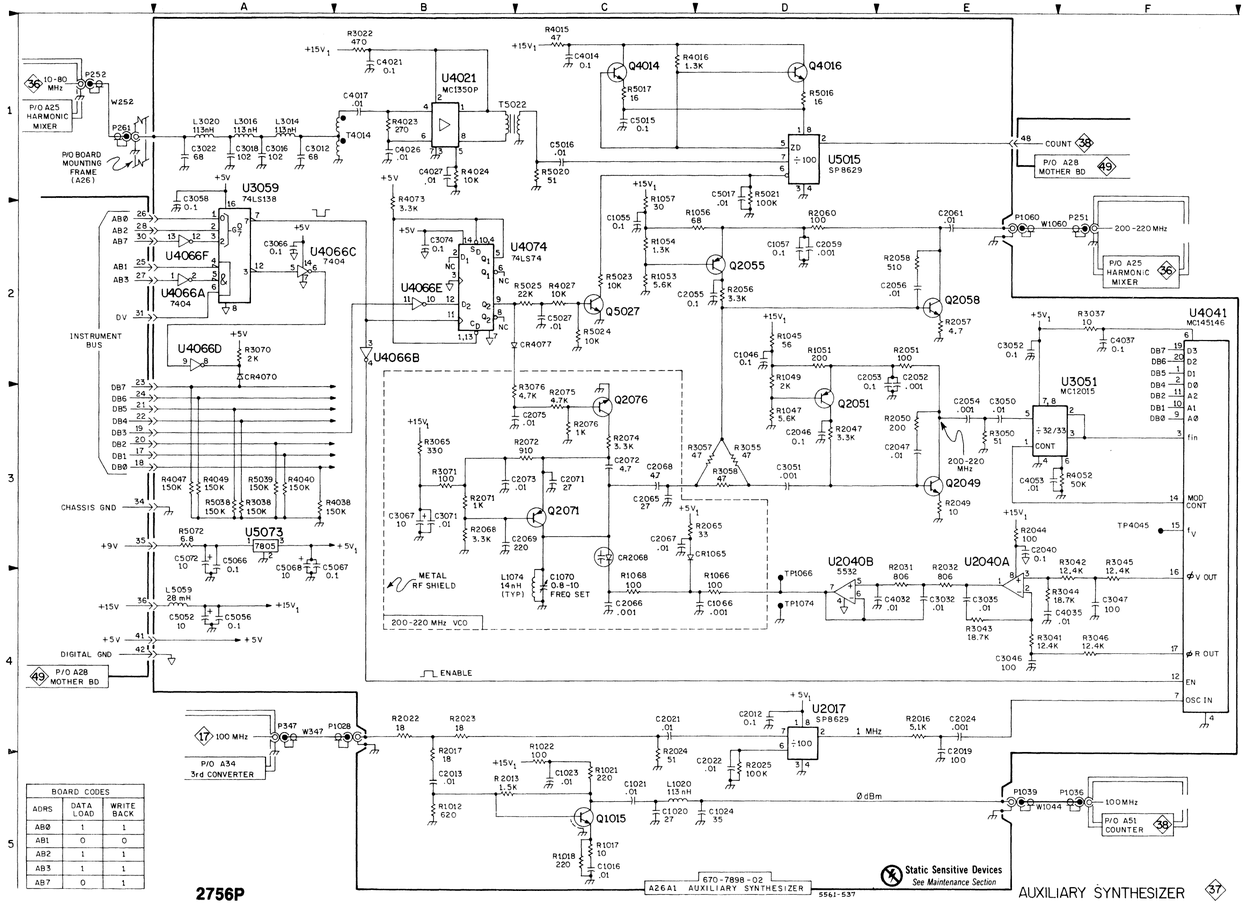
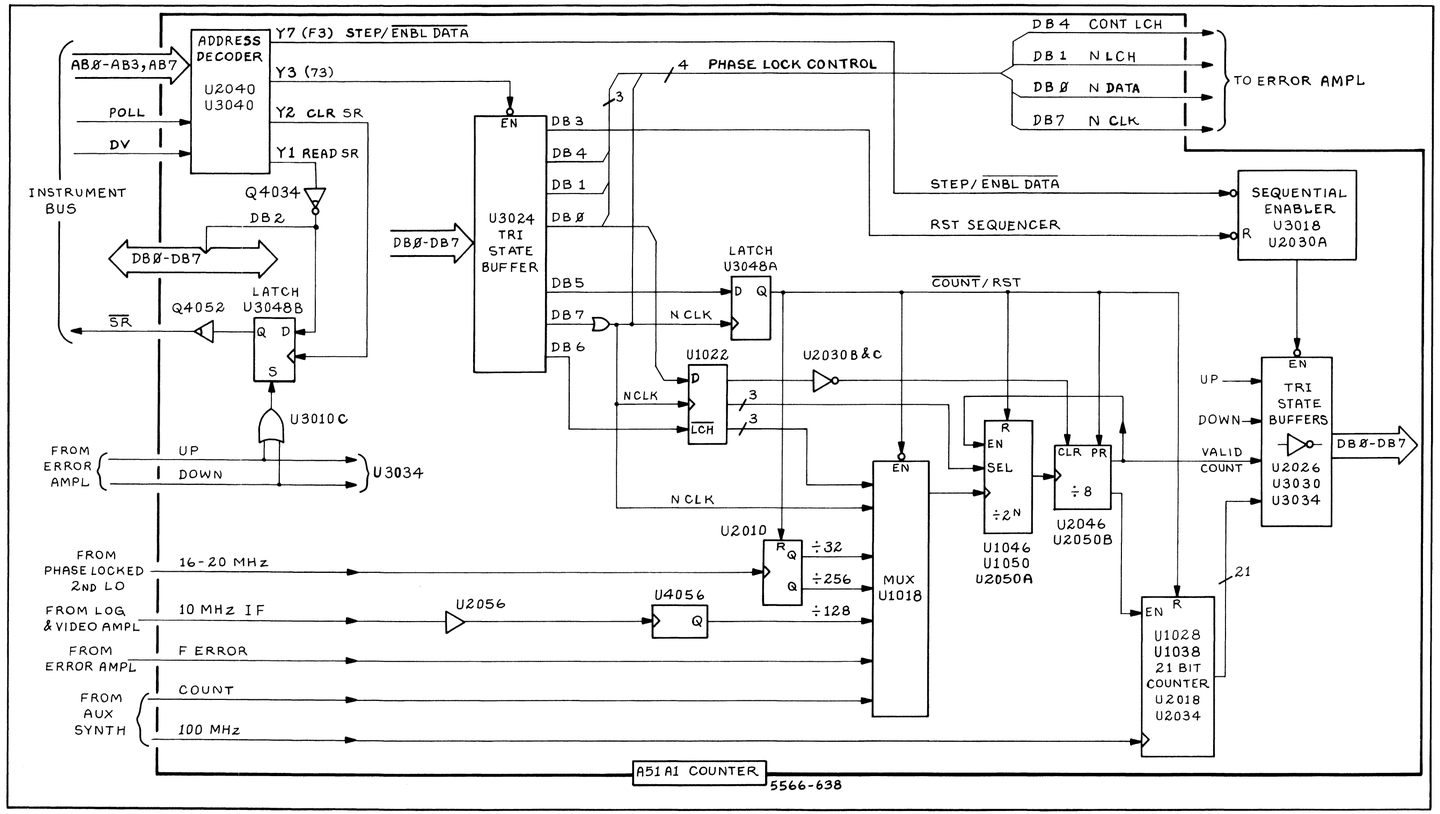
ASSEMBLY A26A1

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1016	C5	A1	C3074	B2	G3	R1018	C5	A1	R3058	D3	E3
C1020	C5	A1	C4014	C1	A4	R1021	C5	B1	R3065	B3	F3
C1021	C5	B1	C4017	B1	A3	R1022	C4	B1	R3070	A2	G3
C1023	C5	B1	C4021	B1	B3	R1045	D2	D1	R3071	B3	G3
C1024	D5	B1	C4026	B1	B4	R1047	D3	D1	R3076	C2	G3
C1046	D2	D1	C4027	B1	B4	R1049	D2	D1	R4015	C1	A4
C1055	C2	E1	C4032	E4	C4	R1051	D2	E1	R4016	C1	A4
C1057	D2	E1	C4035	F4	C4	R1053	C2	E1	R4023	B1	B4
C1066	D4	F1	C4037	F2	C4	R1054	C2	E1	R4024	B1	B4
C1070	C3	G1	C4053	E3	E4	R1056	C2	E1	R4027	C2	B4
C2012	D4	A2	C5015	C1	A5	R1057	C1	E1	R4038	A3	C4
C2013	B5	A2	C5016	C1	A5	R1066	D3	F1	R4040	A3	D4
C2019	E4	A2	C5017	D1	A5	R1068	C3	F1	R4047	A3	D4
C2021	C4	A2	C5027	C2	B5	R2013	B5	A2	R4049	A3	E4
C2022	D5	B2	C5052	A4	E5	R2016	E4	A2	R4052	F3	E4
C2024	E4	B2	C5056	A4	E5	R2017	B4	A2	R4073	B1	G4
C2040	E3	C2	C5066	A3	F4	R2022	B4	B2	R5016	D1	A5
C2046	D3	D2	C5067	A3	F5	R2023	B4	B2	R5017	C1	A5
C2047	E3	D2	C5068	A3	F5	R2024	C4	B2	R5020	C1	B5
C2052	E2	E2	C5072	A3	G5	R2025	D5	B2	R5021	D1	B5
C2053	D2	E2				R2031	E3	C2	R5023	C2	B5
C2054	E3	E2	CR1065	D3	F1	R2032	E3	C2	R5024	C2	B5
C2055	C2	E2	CR2068	C3	F1	R2044	E3	D2	R5025	C2	B5
C2056	E2	E2	CR4070	A2	G4	R2047	D3	D2	R5038	A3	C5
C2059	D2	E2	CR4077	C2	G4	R2049	E3	D2	R5039	A3	C5
C2061	E2	F2				R2050	E3	E2	R5072	A3	G5
C2065	C3	F2	L1020	C5	B1	R2051	E2	E2			
C2066	C4	F1	L1074	B3	G1	R2056	D2	E2	T4014	B1	A4
C2067	C3	F2	L3014	A1	A3	R2057	E2	E2	T5022	B1	B4
C2068	C3	F2	L3016	A1	A3	R2058	E2	E2			
C2069	C3	F2	L3020	A1	B3	R2060	D2	F2	TP1066	D3	F1
C2071	C3	G2	L5059	A4	E5	R2065	D3	F2	TP1074	D4	G1
C2072	C3	G2				R2068	B3	F2	TP4045	F3	D4
C2073	C3	G2	P1028	A4	B1	R2071	B3	G2			
C2075	C3	G2	P1039	E5	C1	R2072	C3	G2	U2017	D4	A2
C3012	A1	A3	P1060	E2	F1	R2074	C3	G2	U2040A	E3	C2
C3016	A1	A3				R2075	C3	G2	U2040B	D3	C2
C3018	A1	A3	Q1015	C5	A1	R2076	C3	G2	U3051	F2	E3
C3022	A1	B3	Q2049	E3	D2	R3037	F2	C3	U3059	A1	E4
C3032	E4	C3	Q2051	D3	E2	R3038	A3	C3	U4021	B1	B4
C3035	E4	C3	Q2055	D2	E1	R3041	E4	D3	U4041	F2	D4
C3046	E4	D3	Q2058	E2	E2	R3042	F3	D3	U4066A	A2	F4
C3047	F4	D3	Q2071	C3	G2	R3043	E4	D3	U4066B	B2	F4
C3050	E3	E3	Q2076	C3	G2	R3044	F4	D3	U4066C	A2	F4
C3051	D3	E3	Q4014	C1	A4	R3045	F3	D3	U4066D	A2	F4
C3052	E2	E3	Q4016	D1	A4	R3046	F4	D3	U4066E	B2	F4
C3058	A1	E3	Q5027	C2	B4	R3050	E3	E3	U4066F	A2	F4
C3066	A2	E3				R3055	D3	E3	U4074	C2	G4
C3067	B3	F3	R1012	B5	A1	R3057	D3	E2	U5015	D1	A5
C3071	B3	G3	R1017	C5	A1				U5073	A3	G5





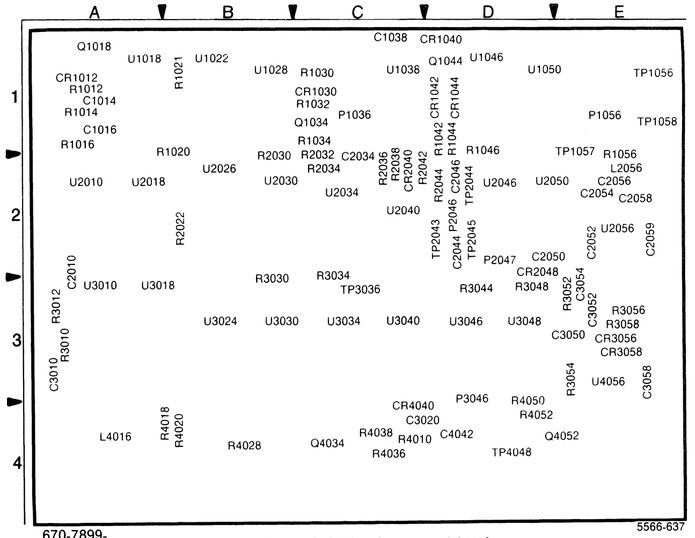
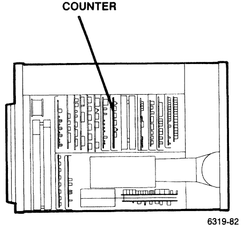


Fig. 10-49. A51A1—Counter circuit board.



COUNTER

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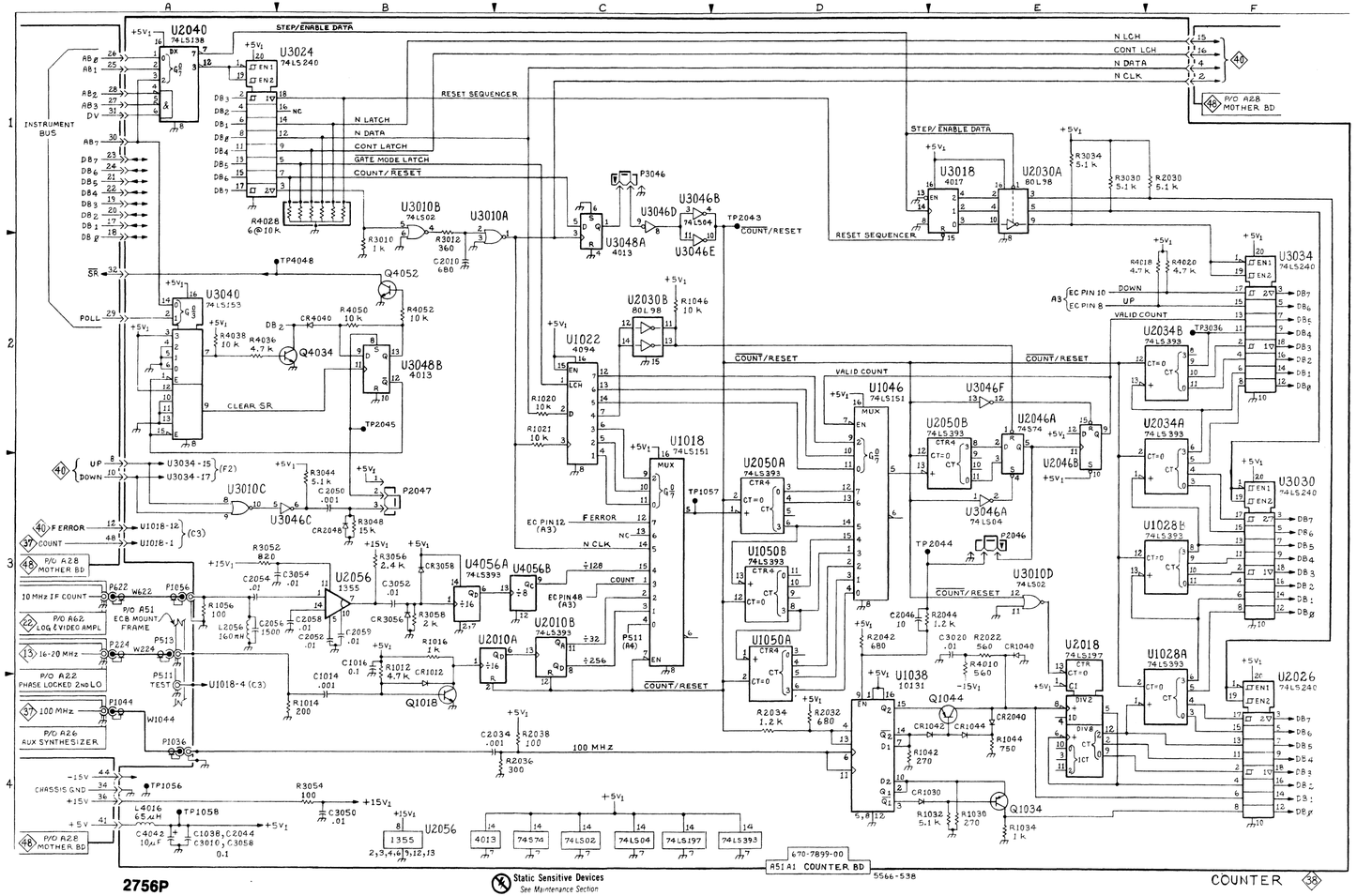
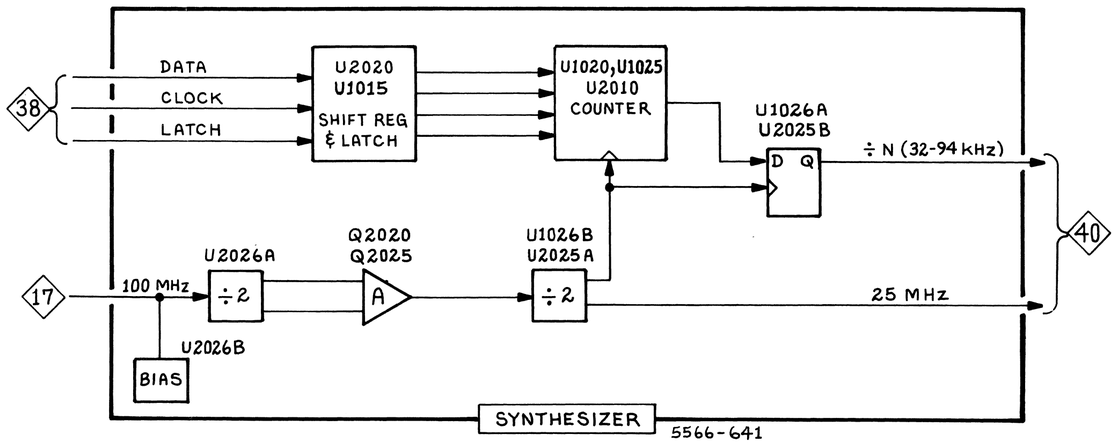
ASSEMBLY A51A1

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1014	B4	A1	R1012	B3	A1	U1018	A3	A1
C1016	B3	A1	R1014	B4	A1	U1018	A4	A1
C1038	A4	C1	R1016	B3	A1	U1018	C2	A1
C2010	B2	A3	R1020	C2	B1	U1022	C2	B1
C2034	B4	C2	R1021	C2	B1	U1028A	F3	B1
C2044	A4	D2	R1030	E4	C1	U1028B	F3	B1
C2046	D3	D2	R1032	D4	C1	U1038	D4	C1
C2050	B3	D2	R1034	E4	C1	U1046	D2	D1
C2052	B3	E2	R1042	D4	D1	U1050A	D3	D1
C2054	A3	E2	R1044	E4	D1	U1050B	D3	D1
C2056	A3	E2	R1046	C2	D1	U2010A	B3	A2
C2058	B3	E2	R1056	A3	E1	U2010B	C3	A2
C2059	B3	E2	R2022	E3	B2	U2018	E3	A2
C3010	A4	A3	R2030	F1	B2	U2026	F4	B2
C3020	E3	D4	R2032	D4	C2	U2030A	E1	B2
C3050	B4	E3	R2034	D4	C2	U2030B	C2	B2
C3052	B3	E3	R2036	C4	C2	U2034A	F2	C2
C3054	B3	E3	R2038	C4	C2	U2034B	F2	C2
C3058	A4	E3	R2042	D3	C2	U2040	A1	C2
C4042	A4	D4	R2044	E3	D2	U2046A	E2	D2
			R3010	B2	A3	U2046B	E3	D2
CR1012	B4	A1	R3012	B2	A3	U2050A	D3	D2
CR1030	D4	C1	R3030	E1	B3	U2050B	E2	D2
CR1040	E3	D1	R3034	E1	C3	U2056	B3	E2
CR1042	D4	D1	R3044	B3	D3	U2056	B3	E2
CR1044	E4	D1	R3048	B3	D3	U2056	B4	E2
CR2040	E4	C2	R3052	A3	E3	U3010A	B1	A3
CR2048	B3	D2	R3054	B4	E3	U3010B	B1	A3
CR3056	B3	E3	R3056	B3	E3	U3010C	A3	A3
CR3058	B3	E3	R3058	B3	E3	U3010D	E3	A3
CR4040	B2	C4	R4010	E3	C4	U3018	E1	A3
			R4018	F2	A4	U3024	B1	B3
L2056	A3	E2	R4020	F2	B4	U3030	F3	B3
L4016	A4	A4	R4028	A1	B4	U3034	A3	C3
			R4036	A2	C4	U3034	F2	C3
P1036	A4	C1	R4038	A2	C4	U3040	A2	C3
P1056	A3	E1	R4050	B2	D4	U3046A	E3	D3
P2046	E3	D2	R4052	B2	D4	U3046B	C1	D3
P2047	B3	D2				U3046C	A3	D3
P3046	C1	D4	TP1056	A4	E1	U3046D	C1	D3
			TP1057	C3	E1	U3046E	C2	D3
Q1018	B4	A1	TP1058	A4	E1	U3046F	E2	D3
Q1034	E4	C1	TP2043	D1	D2	U3048A	C2	D3
Q1044	E4	D1	TP2044	D3	D2	U3048B	B2	D3
Q4034	B2	C4	TP2045	B2	D2	U4056A	B3	E3
Q4052	B2	E4	TP3036	F2	C3	U4056B	C3	E3
			TP4048	B2	D4			





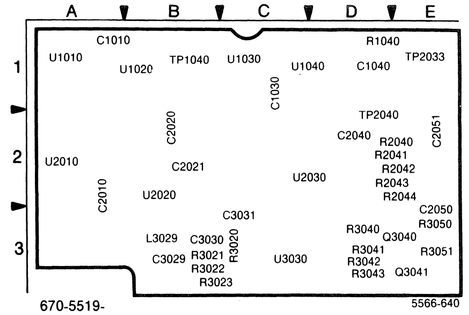
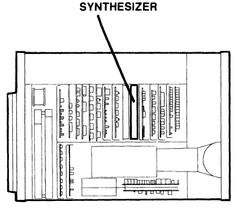


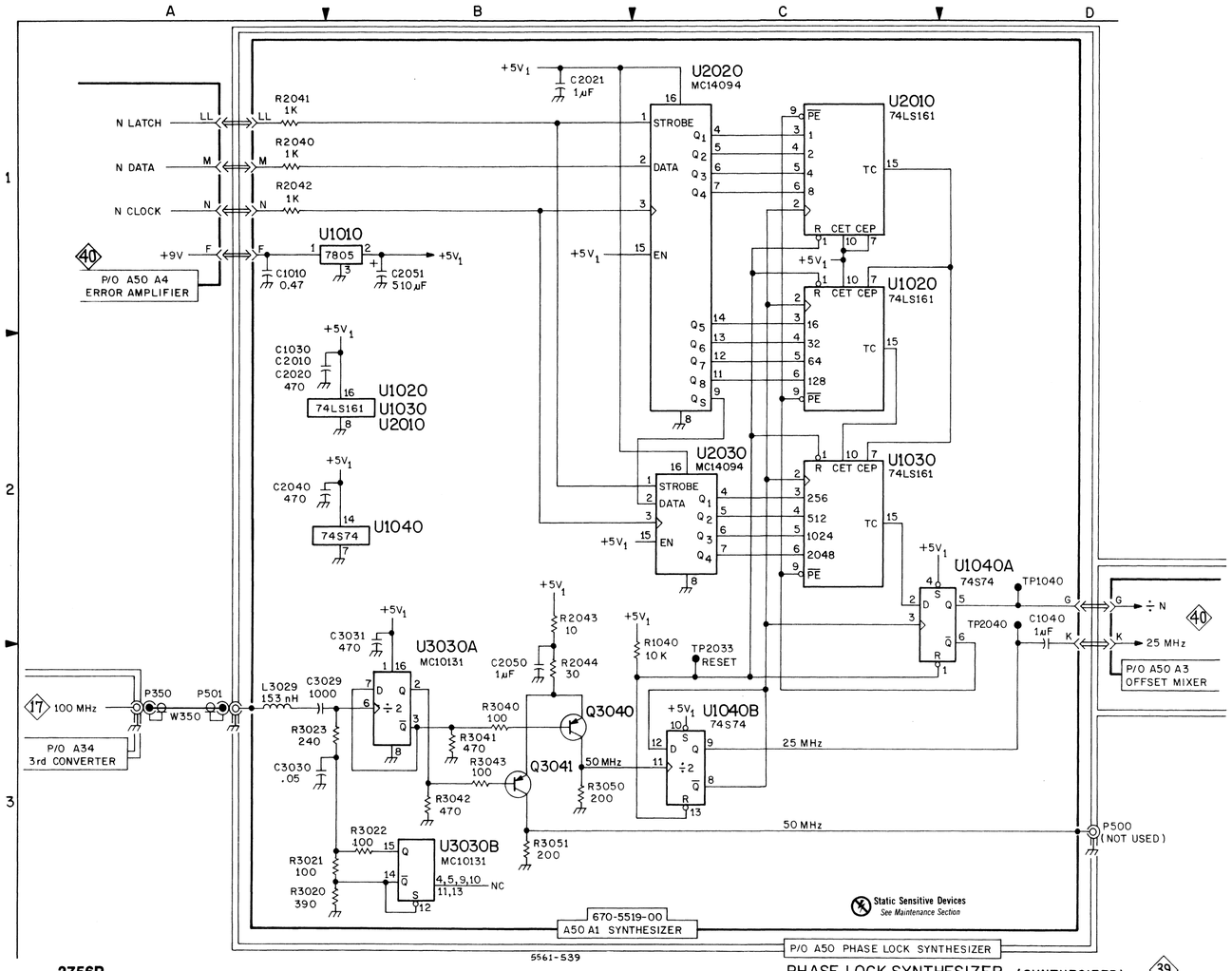
Fig. 10-50. A50A1—Synthesizer circuit board.



PHASE LOCK SYNTHESIZER (SYNTHESIZER) 39

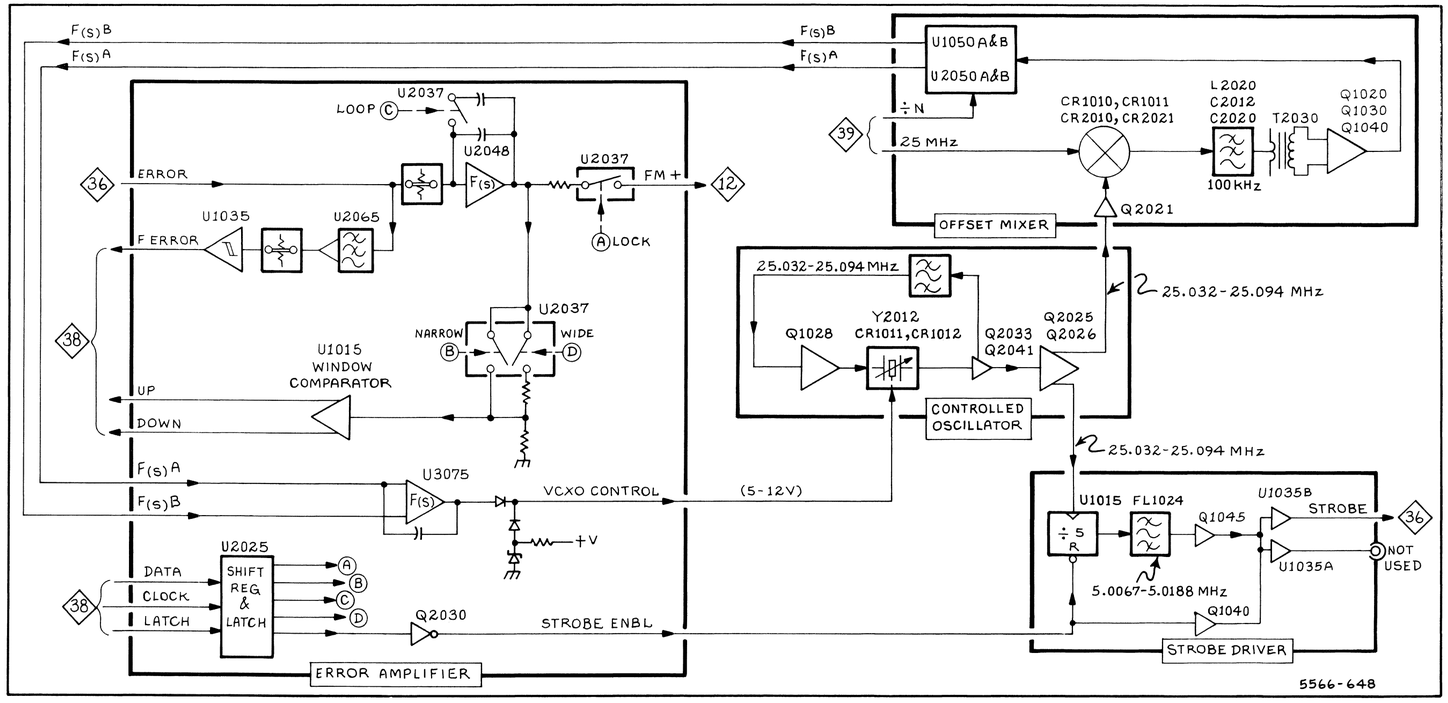
ASSEMBLY A50A1

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1010	A1	A1	R3020	A3	C3
C1030	A1	C1	R3021	A3	B3
C1040	D2	D1	R3022	B3	B3
C2010	A1	A2	R3023	B3	B3
C2020	A1	B2	R3040	B3	D3
C2021	B1	B2	R3041	B3	D3
C2040	A2	D2	R3042	B3	D3
C2050	B3	E3	R3043	B3	D3
C2051	B1	32	R3050	B3	E3
C3029	A3	B3	R3051	B3	E3
C3030	A3	B3			
C3031	B2	C3			
			TP1040	D2	B1
L3029	A3	B3	TP2033	C3	E1
			TP2040	D2	D2
Q3040	B3	E3			
Q3041	B3	E3	U1010	A1	A1
			U1020	C1	B1
R1040	B3	D1	U1020	B2	B1
R2040	A1	E2	U1030	C2	C1
R2041	A1	D2	U1030	B2	C1
R2042	A1	E2	U1040	B2	D1
R2043	B2	D2	U1040A	D2	D1
R2044	B3	E2	U1040B	C3	D1
			U2010	B2	A2
			U2010	C1	A2
			U2020	C1	B2
			U2030	C2	C2
			U3030A	B3	C3
			U3030B	B3	C3



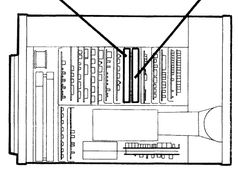
PHASE LOCK SYNTHESIZER (SYNTHESIZER) 39

PHASE LOCK SYNTH BLOCK DIAGRAM & CKT BD ILLUS



OFFSET MIXER & CONTROLLED OSC

STROBE DRIVER & ERROR AMPLIFIER



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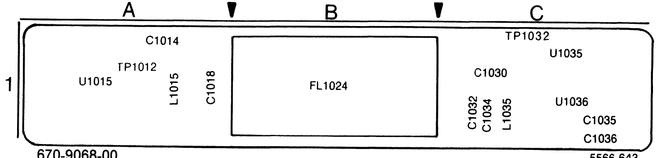


Fig. 10-51. A50A2—Strobe Driver circuit board (FRONT)

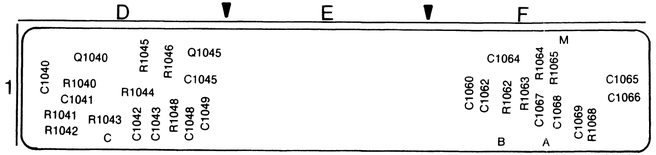


Fig. 10-52. A50A2—Strobe Driver circuit board. (REAR)

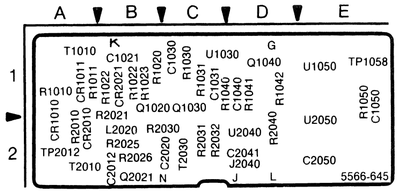


Fig. 10-53. A50A3—Offset Mixer circuit board.

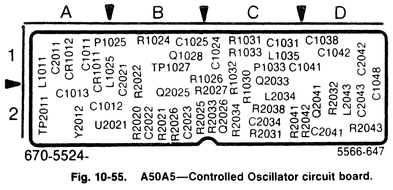


Fig. 10-55. A50A5—Controlled Oscillator circuit board.

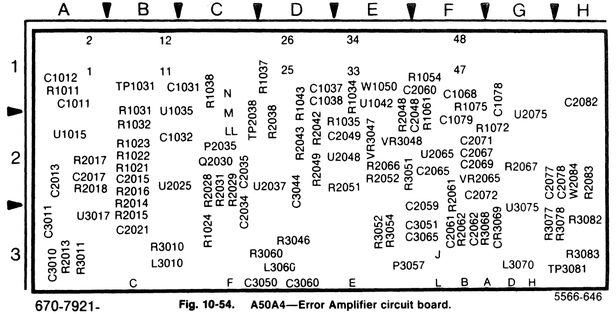


Fig. 10-54. A50A4—Error Amplifier circuit board.

ASSEMBLY A50A5

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1011	D2	A1
C1012	D2	A2
C1013	D3	A2
C1024	D1	C1
C1025	C1	B1
C1031	C1	C1
C1038	D1	D1
C1041	D1	D1
C1042	D1	D1
C1048	D1	D1
C2011	D2	A1
C2021	C2	B1
C2022	C2	B2
C2023	E2	B2
C2034	D2	C2
C2041	D1	D2
C2042	D1	D1
C2043	D1	D2
CR1011	D2	A1
CR1012	D2	A1
L1011	D2	A1
L1025	D2	B1
L1035	C1	C1
L2034	D1	C2
L2043	D1	D2
P1025	D2	B1
P1033	C1	C1
Q1028	C1	B1
Q2025	E2	B2
Q2026	E1	C2
Q2033	D2	C1
Q2041	D1	D2
R1024	D2	B1
R1026	C1	C1
R1030	C1	C2
R1031	C1	C1
R1032	C1	C1
R1033	C1	C1
R2020	C2	B1
R2021	E2	B2
R2022	D2	B1
R2025	E2	B2
R2026	E2	B2
R2027	E2	C2
R2031	C1	C2
R2032	D1	D2
R2033	E2	C2
R2034	D2	C2
R2038	D1	C2
R2041	D1	C2
R2042	D1	D2
R2043	D1	D2
TP1027	C2	B1
TP2011	E2	A2
U2021	C2	B2
Y2012	D2	A2

PHASE LOCK SYNTHESIZER (PHASE LOCK)

ASSEMBLY A50A2

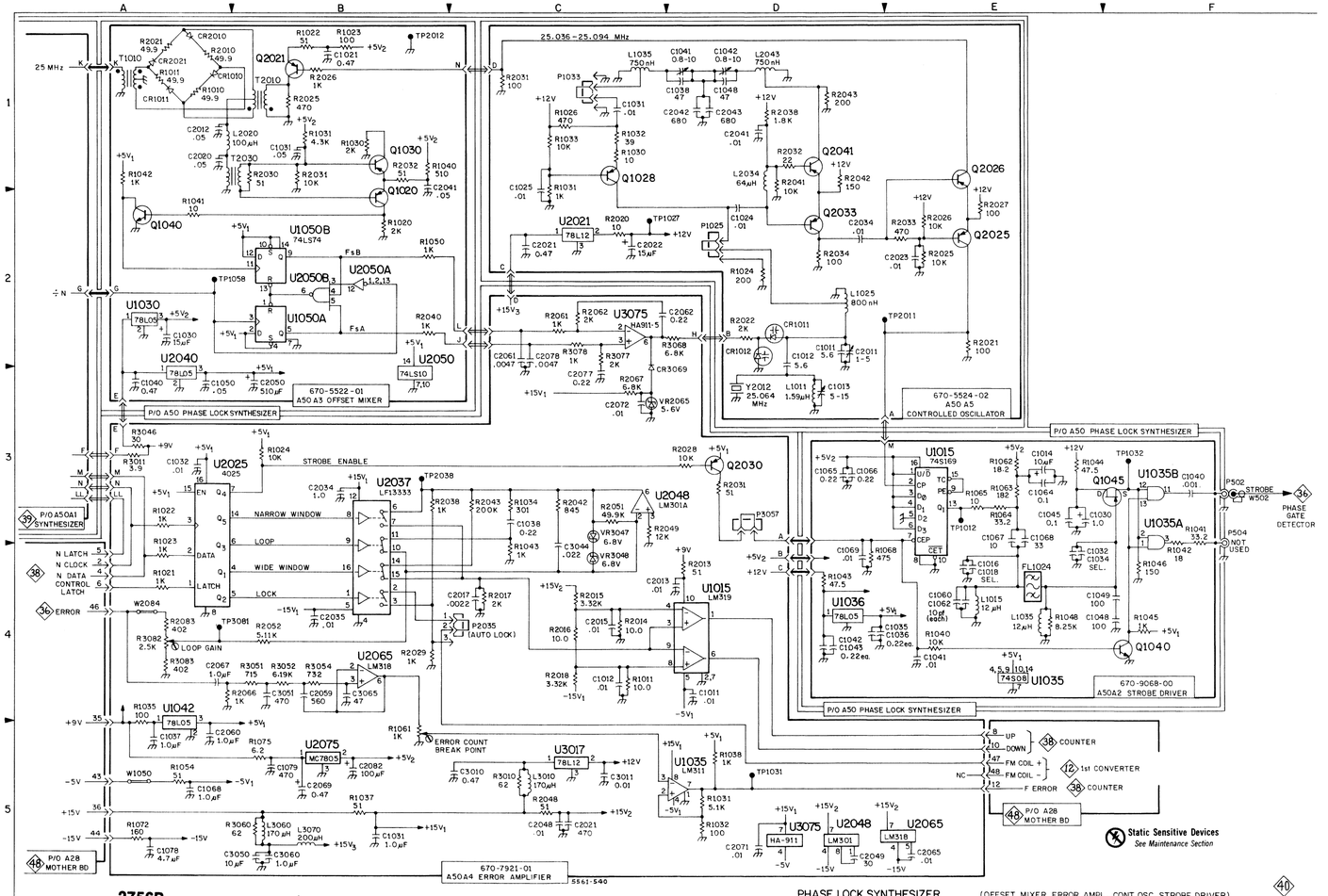
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1014	E3	A1
C1016	E3	A1
C1018	E4	A1
C1030	E3	C1
C1032	E3	C1
C1034	E3	C1
C1035	E4	C1
C1036	E4	C1
C1040	F3	D1
C1041	E4	D1
C1042	D4	D1
C1043	D4	D1
C1045	E3	D1
C1048	F4	D1
C1049	F4	D1
C1060	E4	F1
C1062	E4	F1
C1064	E3	F1
C1065	D3	F1
C1066	D3	F1
C1067	E3	F1
C1068	E3	F1
C1069	D3	F1
FL1024	E3	B1
L1015	E4	A1
L1035	E4	C1
Q1040	F4	D1
Q1045	F3	D1
R1040	E4	D1
R1041	E4	D1
R1041	F3	D1
R1042	F3	D1
R1043	D4	D1
R1044	E3	D1
R1045	F4	D1
R1046	F3	D1
R1048	E4	D1
R1062	E3	F1
R1063	E3	F1
R1064	E3	F1
R1065	E3	F1
R1068	E3	F1
TP1012	E3	A1
TP1032	F3	C1
U1015	E3	A1
U1035A	F3	C1
U1035	F3	C1
U1036	D4	C1

ASSEMBLY A50A4

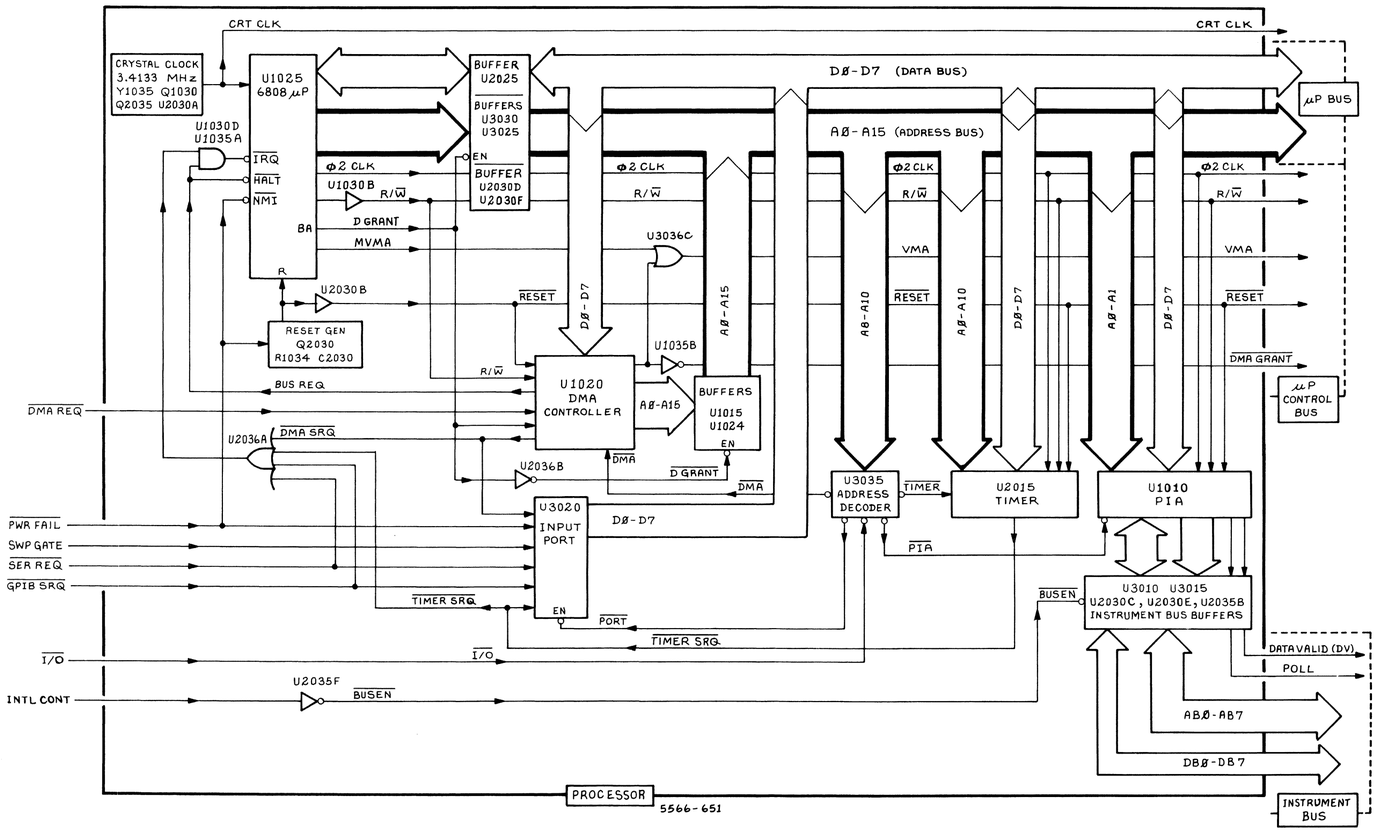
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1011	D4	A1
C1012	C4	A1
C1031	B5	C1
C1032	A3	B2
C1037	A5	D1
C1038	C3	D1
C1068	A5	F1
C1078	A5	G1
C1079	B5	F2
C2013	D4	A2
C2015	C4	B2
C2017	C4	A2
C2021	C5	B3
C2034	B3	C3
C2035	B4	C2
C2048	C5	E2
C2049	E5	E2
C2059	B4	F3
C2060	A5	F1
C2061	C2	F3
C2062	D2	F3
C2065	E5	F2
C2067	A4	F2
C2069	B5	F2
C2071	D5	F2
C2072	C3	F2
C2077	C2	H2
C2078	C2	H2
C2082	B5	H1
C3010	C5	A3
C3011	C5	A3
C3044	C3	D2
C3050	B5	D3
C3051	B4	F3
C3060	B5	D3
C3065	B4	F3
CR3069	D2	G3
L3010	C5	B3
L3060	B5	D3
L3070	B5	G3
P2035	C4	C2
P3057	D3	E3
Q2030	D3	C2
R1011	C4	A1
R1021	A4	B2
R1022	A3	B2
R1023	A3	B2
R1024	B3	C3
R1031	D5	B2
R1032	D5	B2
R1034	C3	E1
R1035	A4	E2
R1037	B5	D1
R1038	D5	C1
R1043	C3	D1
R1054	A5	F1
R1061	B4	F2
R1072	A5	G2
R1075	B5	F1
R2013	D4	A3
R2014	C4	B2
R2015	C4	B3
R2016	C4	B2
R2017	C4	A2
R2018	C4	A2
R2028	D3	C2
R2029	B4	C2
R2031	D3	C2
R2038	B3	D2
R2042	C3	D2
R2043	C3	D2
R2048	C5	E2
R2049	D3	D2
R2051	C3	E2
R2052	B4	E2
R2061	C2	F2
R2062	C2	F3
R2063	A4	H2
R3010	C5	B3
R3011	A3	A3
R3046	A3	D3
R3051	B4	E2
R3052	B4	E3
R3054	B4	E3
R3060	A5	D3
R3068	D2	G3
R3077	C2	H3
R3078	C2	H3
R3082	A4	H3
R3083	A4	H3
TP1031	D5	B1
TP2038	B3	C2
TP3081	A4	H3
U1015	D4	A2
U1035	D5	B2
U1042	A4	E1
U2025	A3	B2
U2037	B3	D2
U2048	D3	E2
U2048	D5	E2
U2065	B4	F2
U2065	E5	F2
U2075	B5	G2
U3017	C5	A3
U3075	C2	G3
U3075	D5	G3
VR2065	D3	F2
VR3047	C3	E2
VR3048	C3	E2
W1050	A5	E1
W2084	A4	H2

ASSEMBLY A50A3

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1021	B1	B1
C1030	A2	C1
C1031	B1	C1
C1040	A3	D1
C1050	A3	E1
C2012	A1	B2
C2020	A1	C2
C2041	B1	D2
C2050	B3	E2
CR1010	A1	A2
CR1011	A1	A1
CR2010	A1	A2
CR2021	A1	B1
L2020	B1	B2
Q1020	B2	B1
Q1030	B1	C1
Q1040	A2	D1
Q2021	B1	B2
R1010	A1	A1
R1011	A1	A1
R1020	B2	B1
R1022	B1	B1
R1023	B1	B1
R1030	B1	C1
R1040	B1	C1
R1041	A2	D1
R1042	A1	D1
R1050	B2	E1
R2010	A1	A2
R2021	A1	B1
R2025	B1	B2
R2026	B1	B2
R2030	B1	B2
R2031	B1	C2
R2032	B1	C2
R2040	B2	D2
T1010	A1	A1
T2010	B1	A2
T2030	B1	C2
TP1058	A2	E1
TP2012	B1	A2
U1030	A2	C1
U1050A	B2	E1
U1050B	B2	E1
U2040	A2	D2
U2050A	B2	E2
U2050B	B2	E2
U2050	B2	E2



PROCESSOR BLOCK DIAGRAM & CKT BD ILLUS



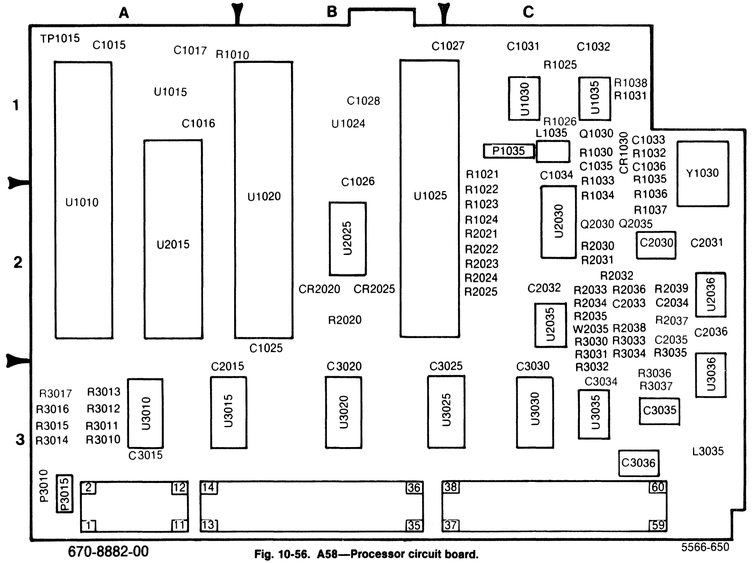


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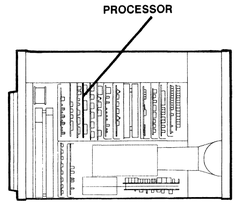
Fig. 10-56. A58—Processor circuit board.

5566-650



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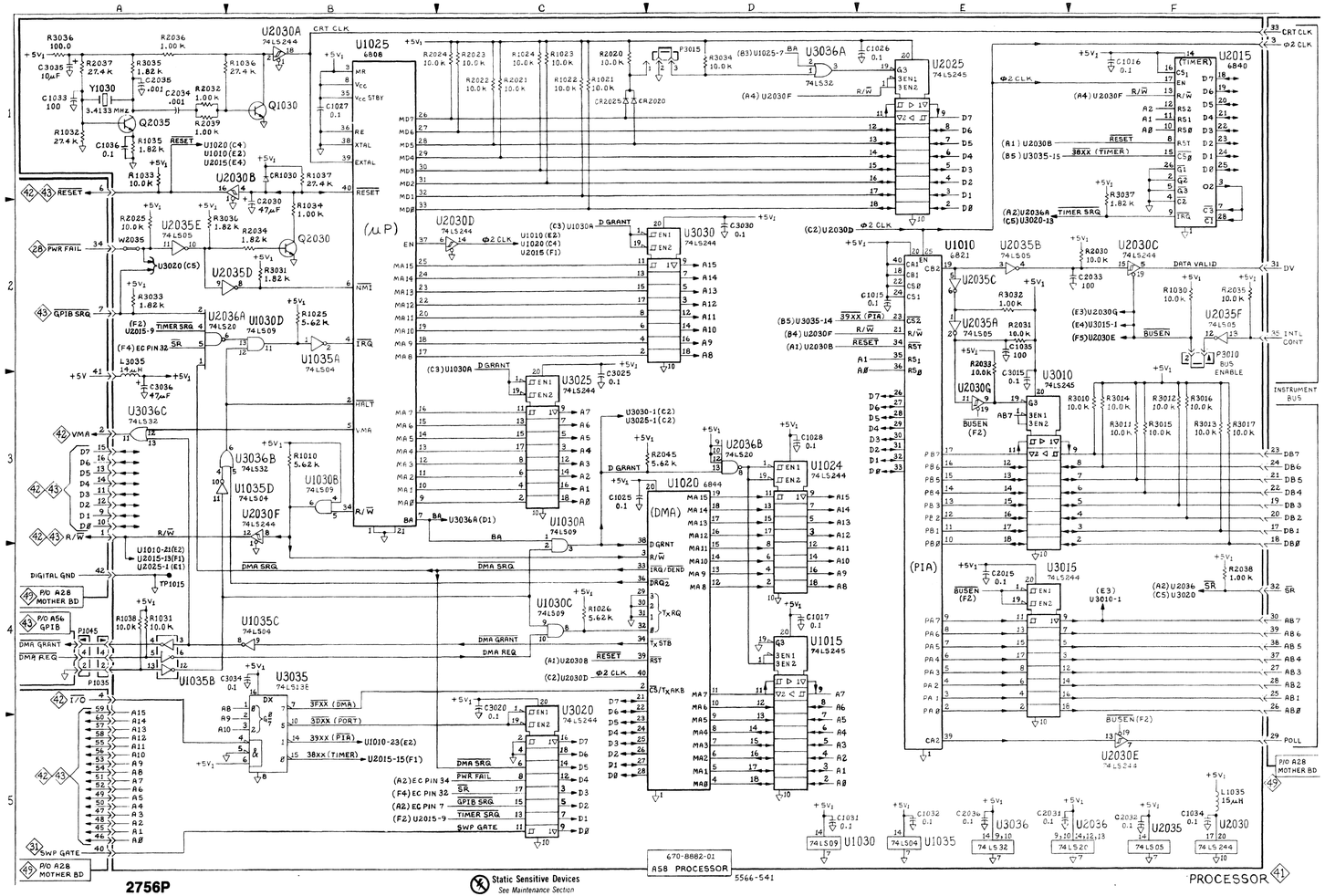
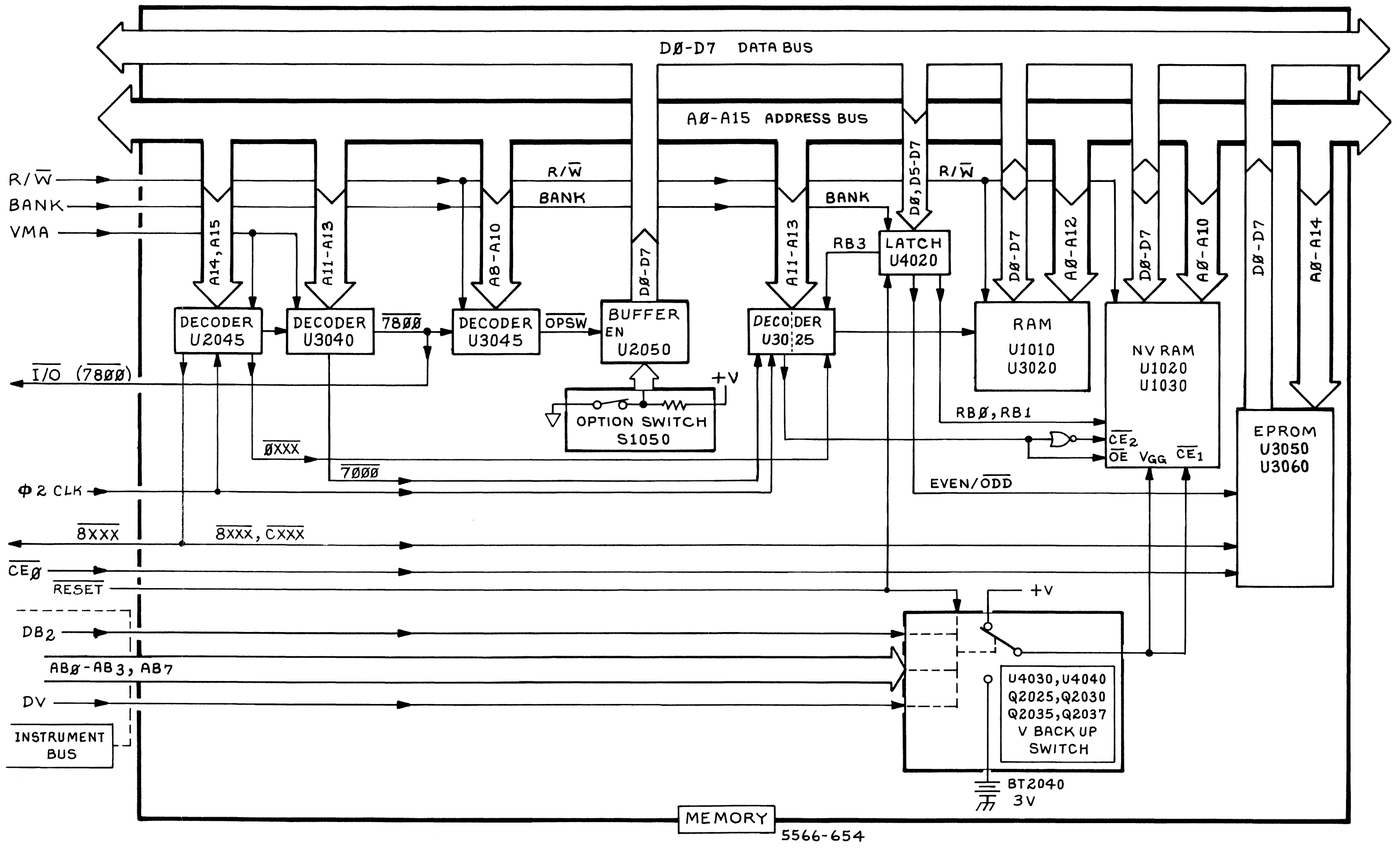
PROCESSOR 41

ASSEMBLY A58

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1015	E2	A1	R1010	B3	A1	R3034	D1	C2	U2030D	C3	C2
C1016	F1	A1	R1021	C1	C1	R3035	A1	C2	U2030D	D2	C2
C1017	D4	A1	R1022	C1	C2	R3036	A1	C3	U2030E	F5	C2
C1025	C3	B1	R1023	C1	C2	R3037	F1	C3	U2030F	B3	C2
C1026	E1	B2	R1024	C1	C2				U2030F	D2	C2
C1027	B1	C1	R1025	B2	C2	TP1015	A4	A1	U2030F	F1	C2
C1028	D3	B1	R1026	C3	C1				U2030G	E3	C2
C1031	D5	C1	R1030	F2	C1	U1010	A1	A2	U2030	F4	C2
C1032	E5	C1	R1031	A4	C1	U1010	A4	A2	U2030	F5	C2
C1033	A1	C1	R1032	A1	C1	U1010	B5	A2	U2035A	E2	C2
C1034	F5	C2	R1033	A1	C2	U1010	C2	A2	U2035B	E2	C2
C1035	E2	C1	R1034	B2	C2	U1010	E2	A2	U2035C	E2	C2
C1036	A1	C1	R1035	A1	C2	U1015	D4	A1	U2035D	B2	C2
C2015	E4	A3	R1036	B1	C2	U1020	A1	B2	U2035E	A2	C2
C2030	B2	C2	R1037	B1	C2	U1020	C2	B2	U2035F	F2	C2
C2031	E5	C2	R1038	A4	C1	U1020	D3	B2	U2035	F5	C2
C2032	F5	C2	R2020	C1	B2	U1024	D3	B1	U2036B	D3	C2
C2033	F2	C2	R2021	C1	C2	U1025	B1	B2	U2036	A2	C2
C2034	A1	C2	R2022	C1	C2	U1025	D1	B2	U2036	E2	C2
C2035	A1	C2	R2023	C1	C2	U1030A	C2	C1	U2036	F4	C2
C2036	E5	C2	R2024	B1	C2	U1030A	C3	C1	U2036	F5	C2
C3015	E2	A3	R2025	A2	C2	U1030B	B3	C1	U3010	E2	A3
C3020	C3	C2	R2030	F2	C2	U1030B	B3	C1	U3010	F4	A3
C3025	C2	B3	R2031	E2	C2	U1030C	C3	C1	U3015	E4	A3
C3030	D2	C3	R2032	A1	C2	U1030D	B2	C1	U3020	A2	B3
C3034	B4	C3	R2033	E3	C2	U1030	E5	C1	U3020	A2	B3
C3035	A1	C3	R2034	B2	C2	U1035A	B2	C1	U3020	C3	B3
C3036	A3	C3	R2035	F2	C2	U1035B	A4	C1	U3020	E2	B3
			R2036	A1	C2	U1035C	B4	C1	U3025	C3	B3
CR1030	B1	C1	R2037	A1	C2	U1035D	B3	C1	U3025	C3	B3
CR2020	C1	B2	R2038	F4	C2	U1035	E5	C1	U3030	C3	C3
CR2025	C1	B2	R2039	A1	C2	U2015	A1	A2	U3030	D2	C3
			R2045	D3	C2	U2015	A4	A2	U3035	B4	C3
L1035	F5	C1	R3010	F3	A3	U2015	B5	A2	U3035	D2	C3
L3035	A2	C3	R3011	F3	A3	U2015	C2	A2	U3035	E1	C3
			R3012	F3	A3	U2015	F1	A2	U3036A	C3	C3
P1035	A4	C1	R3013	F3	A3	U2025	A4	B2	U3036A	D1	C3
P1035	A4	C1	R3014	F3	A3	U2025	E1	B2	U3036B	B3	C3
P3010	F2	A3	R3015	F3	A3	U2030A	B1	C2	U3036C	A3	C3
P3015	D1	A3	R3016	F3	A3	U2030B	B1	C2	U3036	E5	C3
			R3017	F3	A3	U2030B	C3	C2			
Q1030	B1	C1	R3030	A2	C2	U2030B	D2	C2	W2035	A2	C2
Q2030	B2	C2	R3031	B2	C2	U2030B	E1	C2			
Q2035	A1	C2	R3032	E2	C3	U2030C	F2	C2	Y1030	A1	C1
			R3033	A2	C2	U2030D	C2	C2			



MEMORY BLOCK DIAGRAM & CKT BD ILLUS



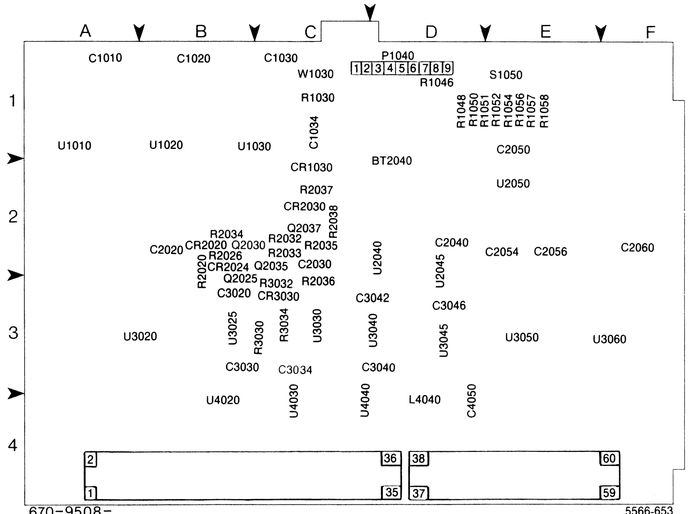
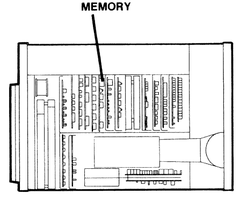


Fig. 10-57. A54—Memory circuit board.

Static Sensitive Devices
See Maintenance Section



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MEMORY

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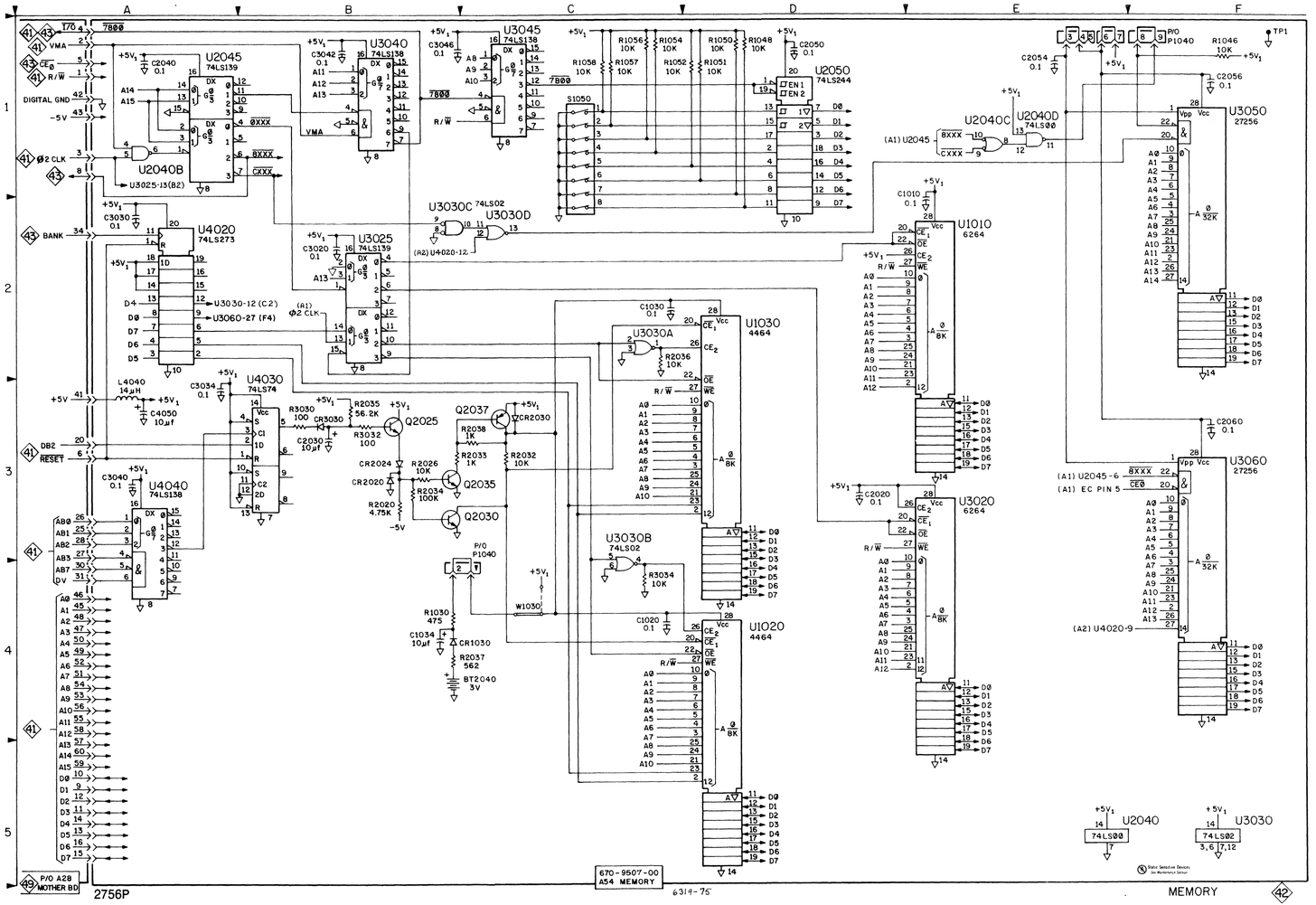
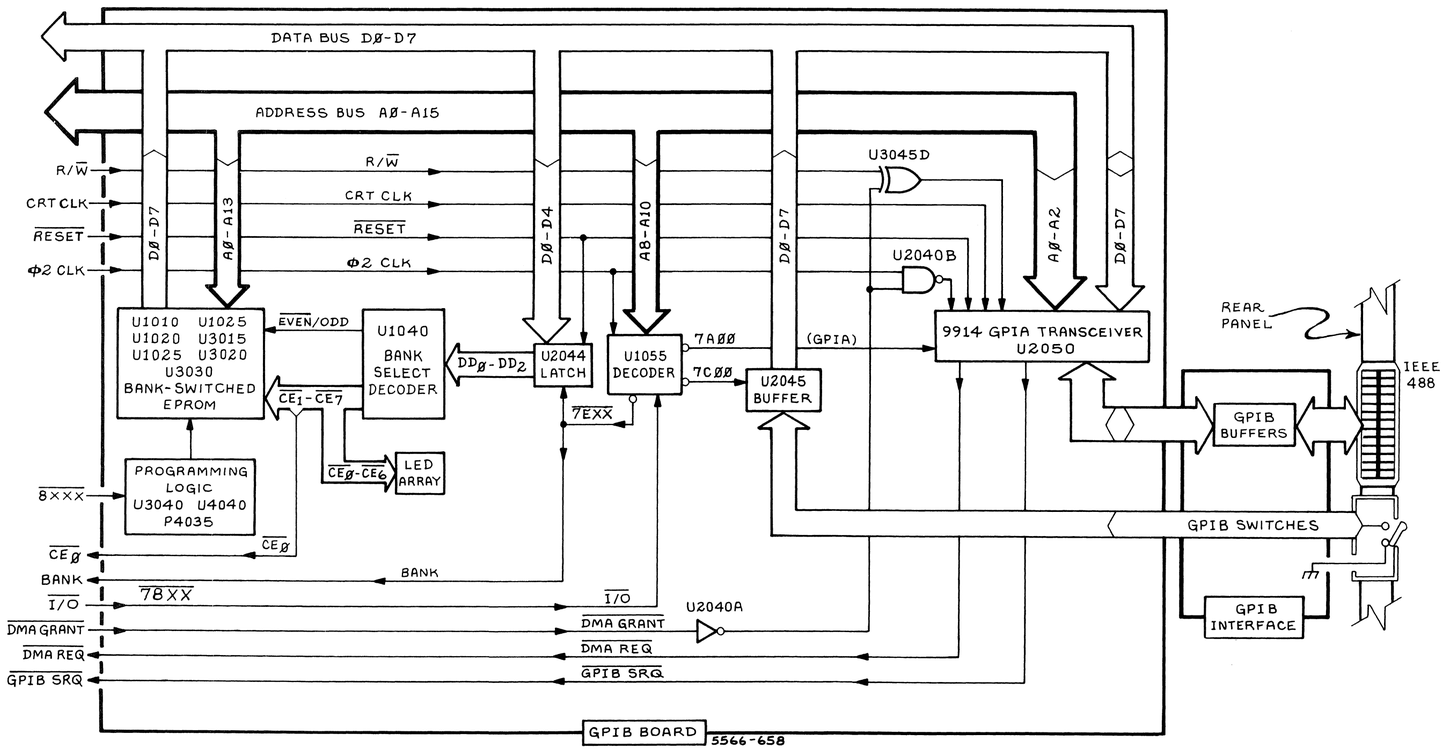
ASSEMBLY A54

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
BT02040	C4	D2	Q2025	B3	B3	U1020	D4	B1
			Q2030	C3	B2	U1030	D2	B1
C1010	E1	A1	Q2035	C3	C2	U2040B	A1	D2
C1020	C4	B1	Q2037	C3	C2	U2040C	E1	D2
C1030	C2	C1				U2040D	E1	D2
C1034	B4	C1	R1030	C4	C1	U2040	F5	D2
C2020	D3	B2	R1046	F1	D1	U2045	A1	D3
C2030	B3	C2	R1048	D1	D1	U2045	E1	D3
C2040	A1	D2	R1050	D1	D1	U2045	E3	D3
C2050	D1	E1	R1051	D1	D1	U2050	D1	E2
C2054	E1	E2	R1052	C1	E1	U3020	E3	B3
C2056	F1	E2	R1054	C1	E1	U3025	B2	B3
C2060	F3	F2	R1056	C1	E1	U3030A	C2	C3
C3020	B2	B3	R1057	C1	E1	U3030B	C3	C3
C3030	A2	B3	R1058	C1	E1	U3030C	B2	C3
C3034	A3	C3	R2020	B3	B2	U3030D	C2	C3
C3040	A3	C3	R2026	B3	B2	U3030	F5	C3
C3042	B1	C3	R2032	C3	C2	U3040	B1	C3
C3046	B1	D3	R2033	C3	C2	U3045	C1	D3
C4050	A3	D4	R2034	B3	B2	U3050	F1	E3
			R2035	B3	C2	U3060	A2	F3
CR1030	B4	C2	R2036	C2	C3	U3060	F3	F3
CR2020	B3	B2	R2037	C4	C2	U4020	A2	B4
CR2024	B3	B2	R2038	C3	C2	U4020	E4	B4
CR2030	C3	C2	R3030	B3	B3	U4030	B3	C4
CR3030	B3	C3	R3032	B3	C3	U4040	A3	C4
			R3034	C4	C3			
L4040	A3	D4				W1030	C4	C1
			S1050	C1	E1			
P1040	C3	D1						
P1040	F1	D1	U1010	E2	A1			





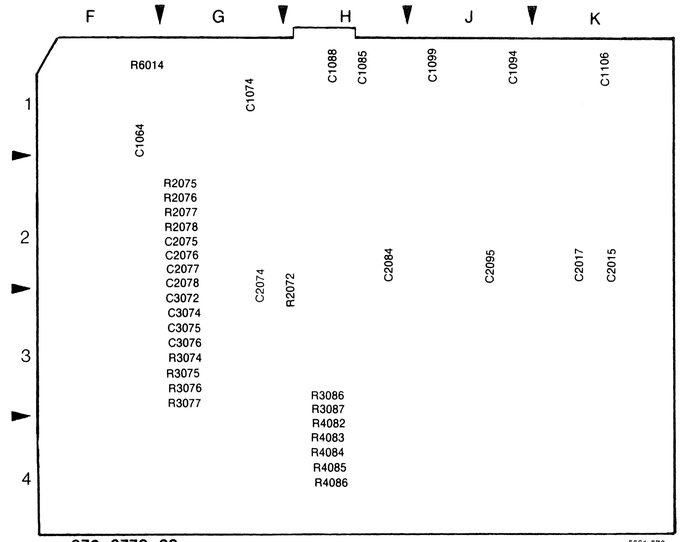
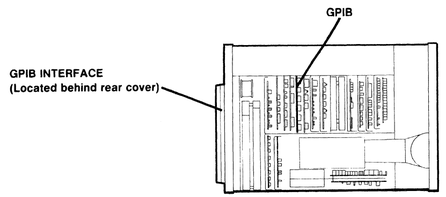


Fig. 10-59. A56—GPIB circuit board. (REAR)



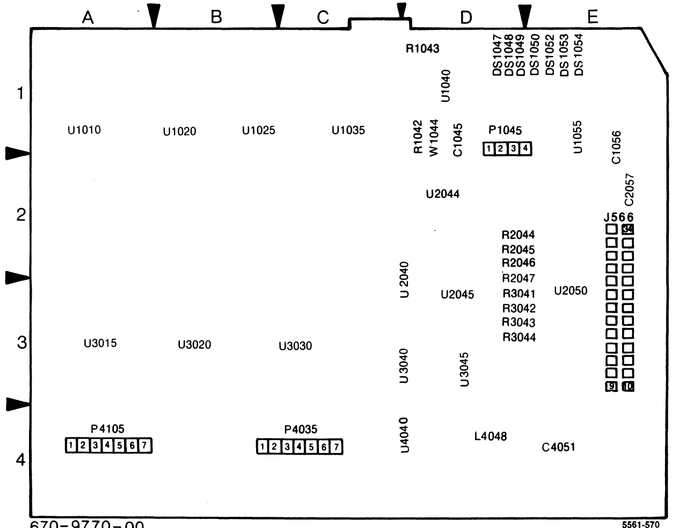


Fig. 10-58. A56—GPIB circuit board. (FRONT)

ROM BANKS & GPIB

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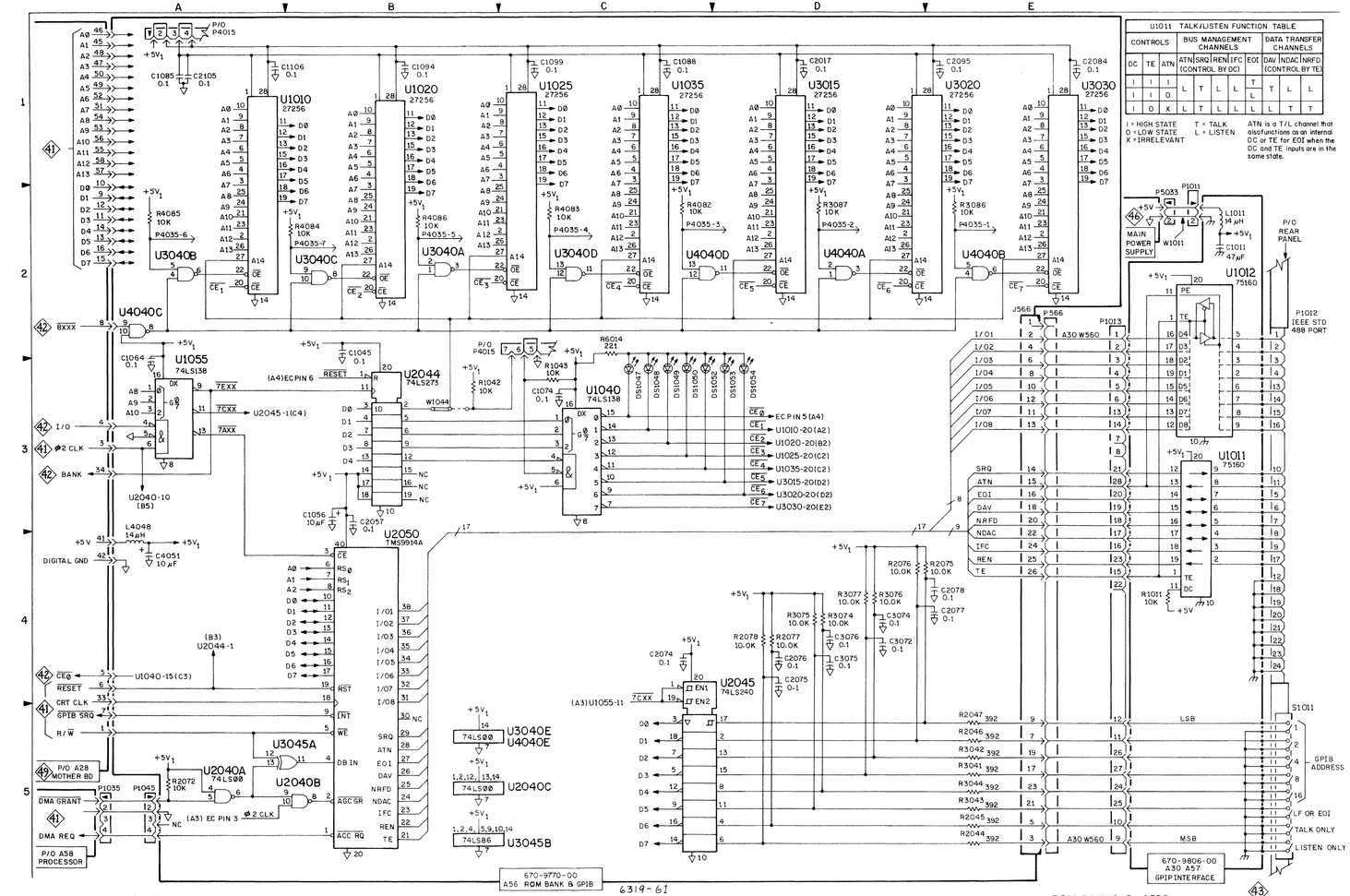
ASSEMBLY A56

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1045	B2	D1
C1056	B3	E1
C1064	A2	F1
C1074	C3	G1
C1085	A1	H1
C1088	C1	H1
C1094	B1	J1
C1099	C1	J1
C1106	B1	K1
C2015	A1	K2
C2017	D1	K2
C2057	B3	E2
C2074	C4	G2
C2075	D4	G2
C2076	D4	G2
C2077	E4	G2
C2078	E4	G2
C2084	E1	H2
C2095	E1	J2
C3072	D4	G3
C3074	D4	G3
C3075	D4	G3
C3076	D4	G3
C4051	A4	E4
DS1047	C3	D1
DS1048	C3	D1
DS1049	C3	D1
DS1050	C3	E1
DS1052	D3	E1
DS1053	D3	E1
DS1054	D3	E1
L4048	A3	D4
P1045	A5	D1
P4015	A1	A4
P4015	B2	A4
P4035	A2	C4
P4035	B2	C4
P4035	B2	C4
P4035	C2	C4
P4035	C2	C4
P4035	D2	C4
P4035	E2	C4
R1042	B3	D1
R1043	C3	D1
R2044	E5	D2
R2045	E5	D2
R2046	E5	D2
R2047	E5	D2
R2072	A5	H2
R2075	E4	G2
R2076	D4	G2
R2077	D4	G2
R2078	D4	G2
R3041	E5	D3
R3042	E5	D3
R3043	E5	D3
R3044	E5	D3
R3074	D4	G3
R3075	D4	G3
R3076	D4	G3
R3077	D4	G3
R3086	E2	H3
R3087	D2	H3
R4082	C2	H3
R4083	C2	H4
R4084	B2	H4
R4085	A2	H4
R4086	B2	H4
R6014	C2	F1
U1010	B1	A1
U1020	B1	B1
U1025	C1	B1
U1035	C1	C1
U1040	C3	D1
U1055	A3	E1
U2040A	A5	C3
U2040B	B5	C3
U2040C	C4	C3
U2044	B3	D2
U2045	D4	D3
U2050	B3	E3
U3015	D1	A3
U3020	E1	B3
U3030	E1	C3
U3040A	B2	C3
U3040B	A2	C3
U3040C	B2	C3
U3040D	C2	C3
U3040E	C4	C3
U3045B	C4	D3
U3045A	B5	D3
U4040A	D2	C4
U4040B	E2	C4
U4040C	A2	C4
U4040D	C2	C4
U4040E	C4	C4
W1044	B3	D1



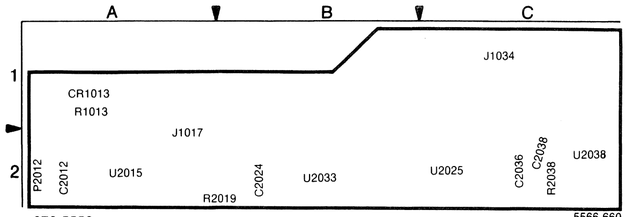
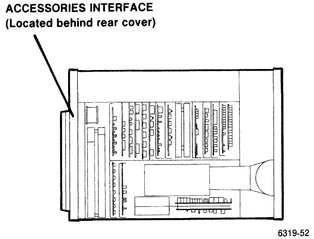


Fig. 10-60. A30A76—Accessories Interface circuit board.



ACCESSORIES INTERFACE

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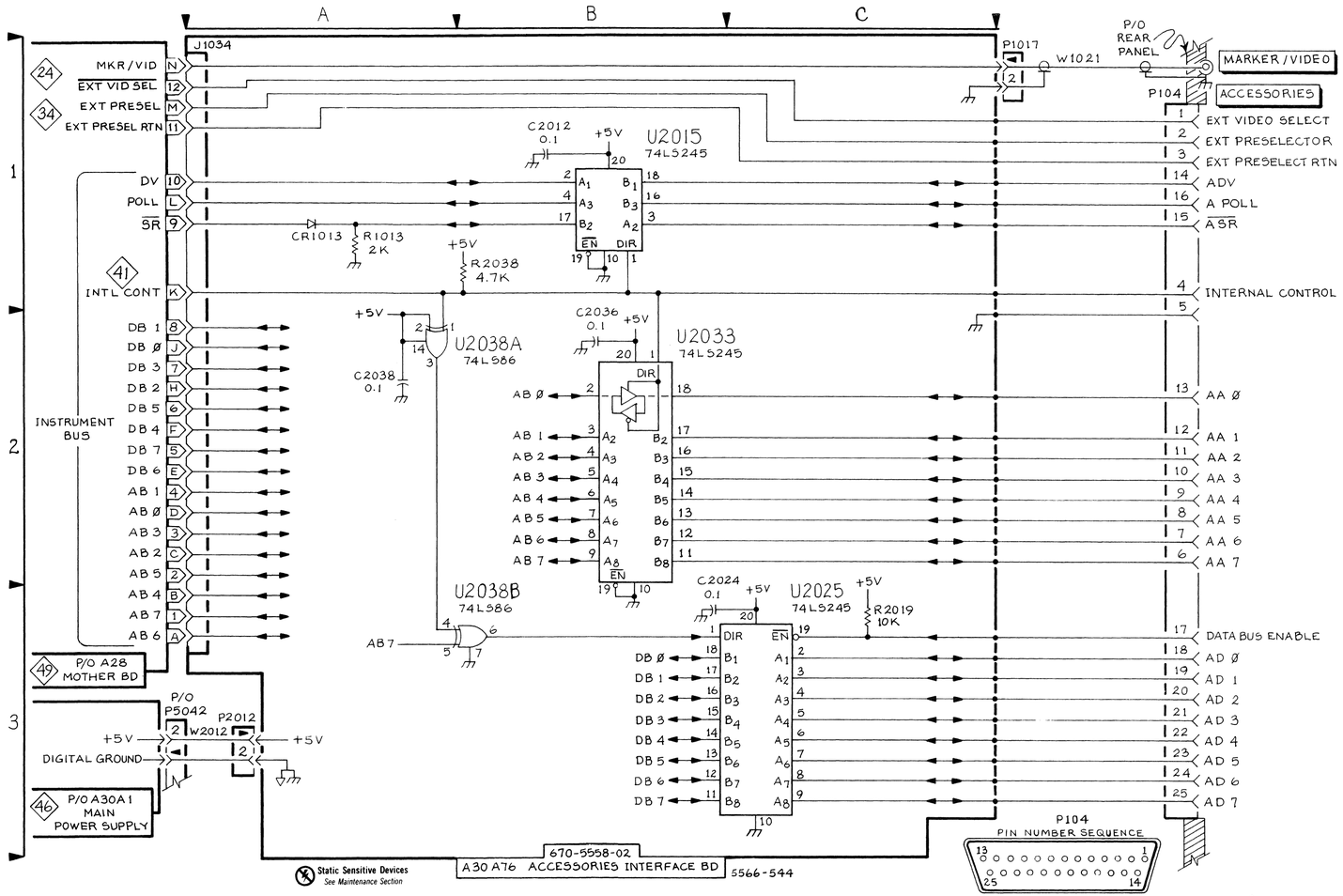
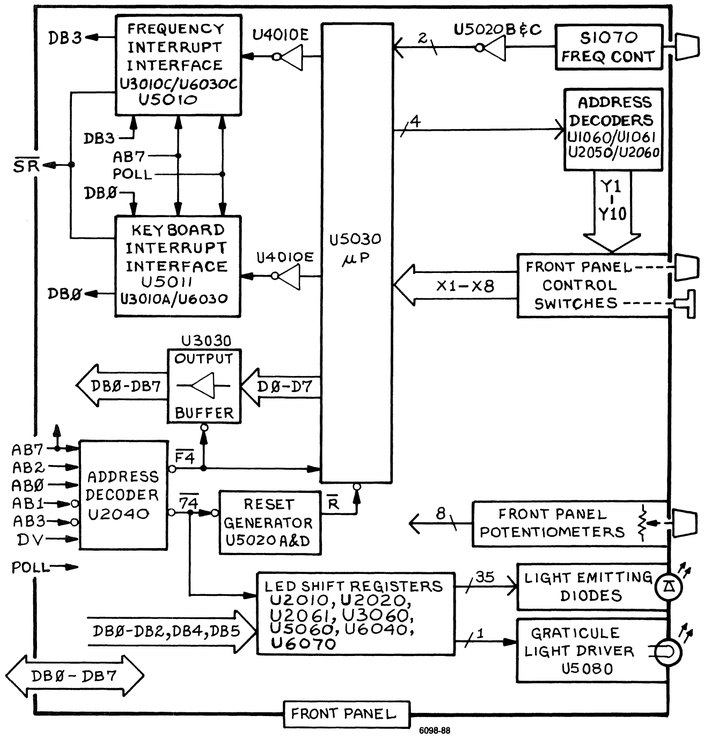
ASSEMBLY A30A76

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C2012	B1	A2	R1013	A1	A1
C2024	B2	B2	R2019	C3	B2
C2036	B2	C2	R2038	B1	C2
C2038	A2	C2			
			U2015	B1	A2
CR1013	A1	A1	U2025	C3	C2
			U2033	B2	B2
J1017	C1	A2	U2038B	B3	C2
J1034	A1	C1	U2038	B2	C2
P2012	A3	A2			



ACCESSORIES INTERFACE 44



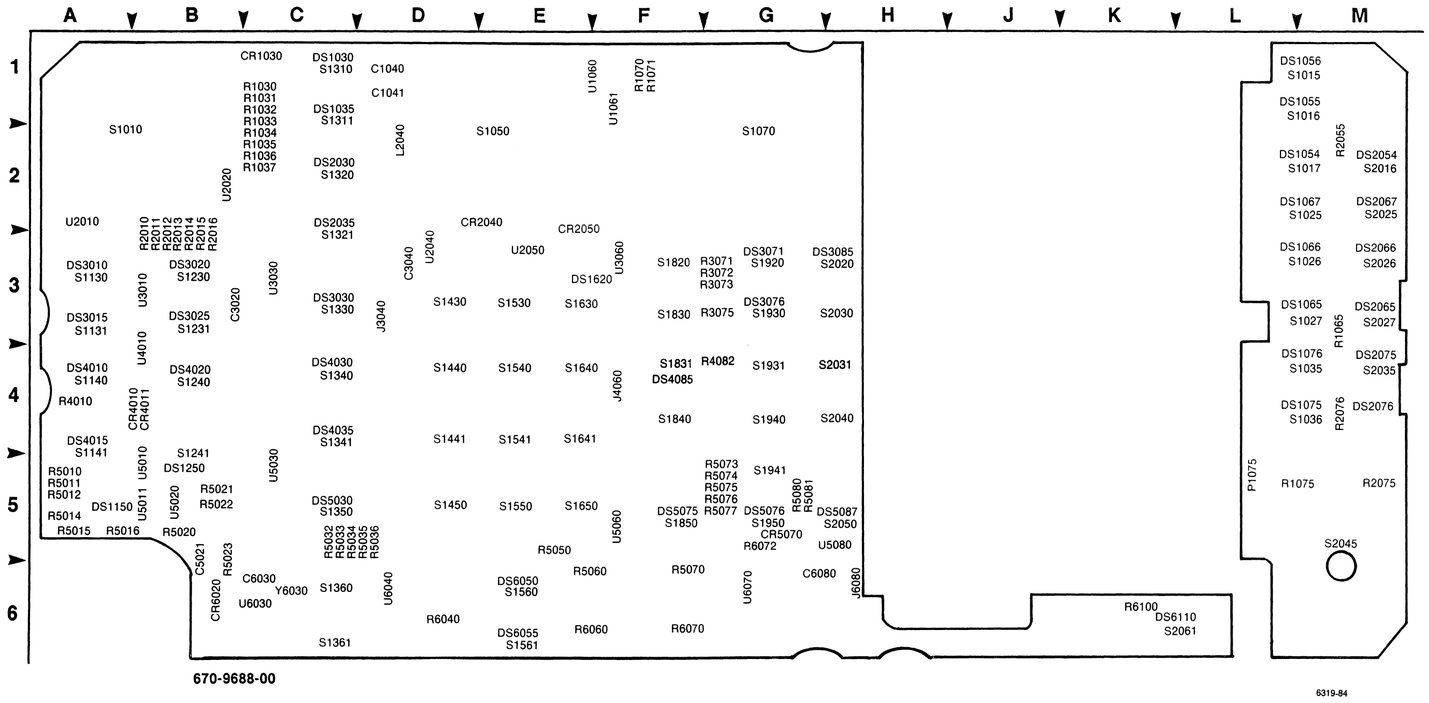
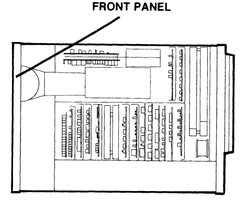


Figure 10-53. A38—Front Panel circuit board.

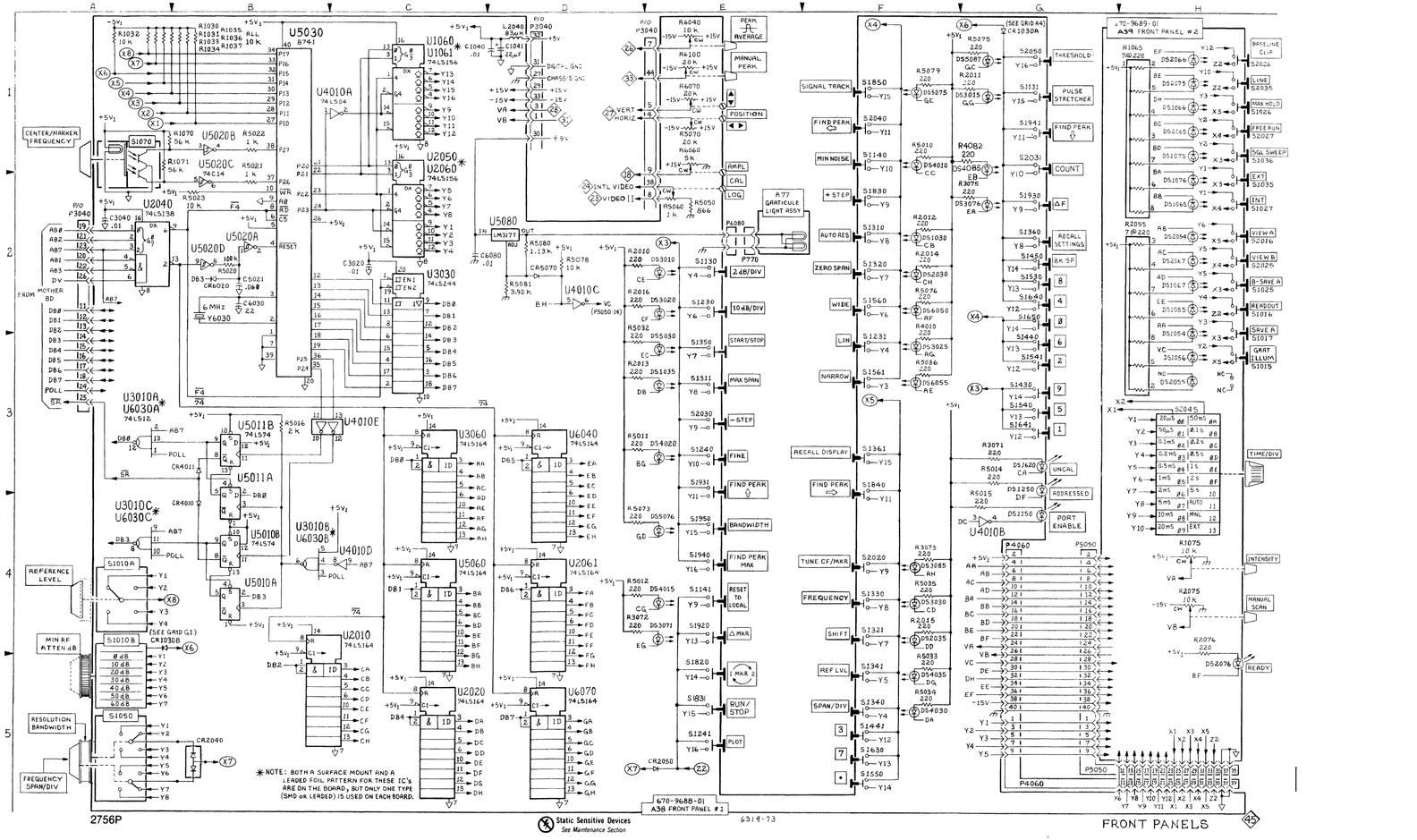


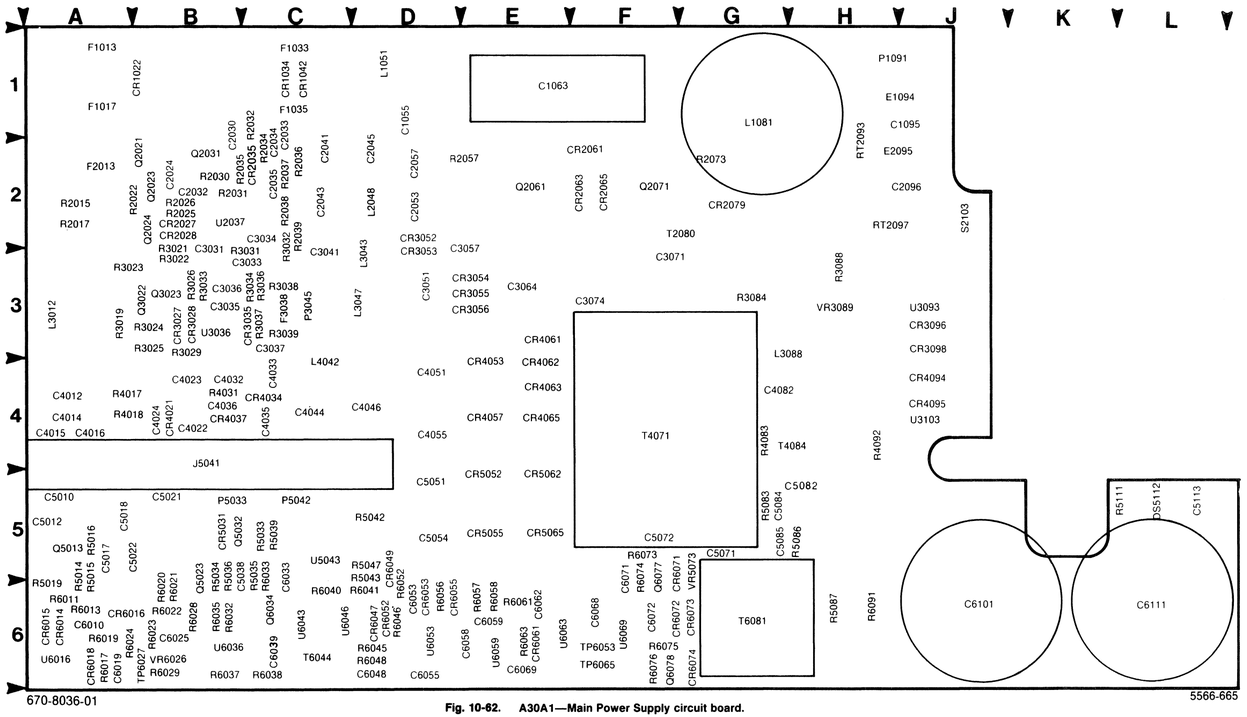
ASSEMBLY A38A1

CIRCUIT NUMBER	BOARD LOCATION	SCHEM LOCATION
C1040	D1	D1
C1041	D1	D1
C3020	B3	C2
C3040	D3	A2
C5021	B6	B2
C6030	C6	B2
C6080	H6	C2
CR1030	C1	G1
CR2040	E2	A5
CR4010	A4	B4
CR4010	B4	B4
CR4011	B4	B3
CR5070	G5	D2
DS1030	C1	F2
DS1035	C1	E3
DS1150	A5	G4
DS1250	B5	G3
DS1620	E3	G3
DS2030	C2	F2
DS2035	C2	F4
DS3010	A3	E2
DS3015	A3	G1
DS3020	B3	E2
DS3025	B3	F3
DS3030	C3	F4
DS3071	G3	E4
DS3076	G3	G2
DS3085	H3	F4
DS4010	A4	F1
DS4015	A4	E4
DS4020	B4	E3
DS4035	C4	F4
DS4085	G2	F3
DS5030	C5	E3
DS5075	F5	F1
DS5076	G5	E4
DS5087	H5	G1
DS6050	E6	F2
DS6055	E6	F3
DS6110	L6	F3
J3040	D3	D1
J4060	F4	G4
J6080	H6	E2
L2040	D2	D1
R1030	C1	B1
R1031	C1	A1
R1032	C1	B1
R1033	C1	B1
R1034	C2	B1
R1035	C2	B1
R1036	C2	B1
R1037	C2	B1
R1070	F1	A1
R1071	F1	A1
R2010	B3	D2
R2011	B3	G1
R2012	B3	D3
R2012	B3	F2
R2014	B3	F2
R2015	B3	F4
R2016	B3	D2
R3071	G3	G1
R3072	G3	E4
R3073	G3	F4
R3075	G3	G2
R4010	A4	F3
R4082	G2	F3
R5010	A5	F1
R5011	A5	E3
R5012	A5	E4
R5014	A5	G3
R5015	A5	G3
R5016	A5	B3
R5020	B5	B2
R5021	B5	B2
R5022	B5	B1
R5023	B6	B2
R5032	C5	E3
R5033	C5	F4
R5034	C5	F5
R5035	D5	F4
R5036	D5	F3
R5050	E5	E2
R5060	E6	E2
R5070	F6	E1
R5073	G5	E4
R5075	G5	G1
R5076	G5	F3
R5077	G5	F4
R5080	G5	D2
R5081	G5	D2
R6040	D6	E1
R6060	E6	E2
R6070	F6	E1
R6072	G5	D2
R6100	K6	E1
S1010	A2	A4
S1050	E2	A5
S1070	G2	A1
S1130	A3	E2
S1131	A3	G1
S1140	A4	F1
S1141	A4	E4
S1230	B3	E2
S1231	B3	F3
S1240	B4	E3
S1241	B4	E5
S1310	C1	F2
S1311	C1	E3
S1320	C2	F2
S1321	C3	F4
S1330	C3	F4
S1340	C4	F4
S1341	C4	F4
S1350	C5	E3
S1360	C6	G2
S1361	C6	F3
S1430	D3	G3
S1440	D4	G3
S1441	D4	F5
S1450	D5	G2
S1530	E3	G2
S1540	E4	G3
S1541	E4	G3
S1550	E5	F5
S1560	E6	F2
S1561	E6	F3
S1630	E3	F5
S1640	E4	G2
S1641	E4	G1
S1650	E5	G3
S1820	F3	E5
S1830	F3	F2
S1831	E5	F3
S1840	F4	F4
S1850	F5	F1
S1920	G3	E4
S1930	G3	G2
S1931	G4	E4
S1940	G4	E4
S1941	G5	G1
S1950	G5	E4
S2020	H3	F4
S2030	D3	E3
S2040	H4	F1
S2050	H5	G1
S2061	L6	F3
U1060	E1	C1
U1061	F1	C1
U2010	A2	C5
U2020	B2	C5
U2040	D3	A2
U2050	E3	C2
U3010	B3	A3
U3030	C3	C2
U3060	F3	C3
U4010	B4	C1
U5010	B5	B4
U5011	B5	B4
U5020	B5	B2
U5030	C5	B1
U5060	F5	C4
U5080	C6	A3
U6040	D6	D3
Y6030	C6	B2

ASSEMBLY A38A2

CIRCUIT NUMBER	BOARD LOCATION	SCHEM LOCATION
DS1054	M2	H3
DS1055	M1	H3
DS1056	M1	H3
DS1065	M3	H2
DS1066	M3	H2
DS1067	M2	H3
DS1075	M4	H2
DS1076	M4	H2
DS2054	M2	H2
DS2060	M3	H1
DS2065	M3	H2
DS2067	M2	H2
DS2075	M4	H1
DS2076	M4	H5
P1075	L5	G4
R1065	L3	H1
R1075	M5	H4
R2055	M2	H2
R2075	M5	H4
R2076	M4	H5
S1015	M1	H3
S1016	M2	H3
S1017	M2	H3
S1025	M2	H3
S1026	M3	H2
S1027	M3	H2
S1035	M4	H2
S1036	M4	H2
S2016	M2	H2
S2025	M2	H2
S2026	M3	H1
S2027	M3	H2
S2035	M4	H1
S2045	M5	H4





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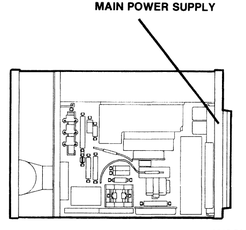
5566-665

Fig. 10-62. A30A1—Main Power Supply circuit board.



6319-54

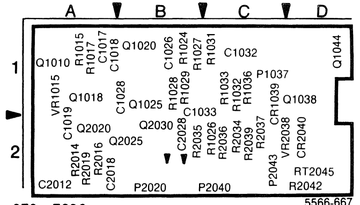
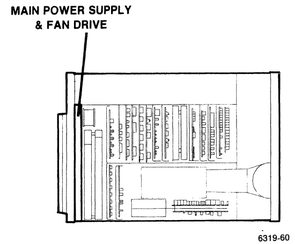


Fig. 10-63. A30A2—Fan Drive circuit board.

FAN DRIVE CKT BD ILLUS

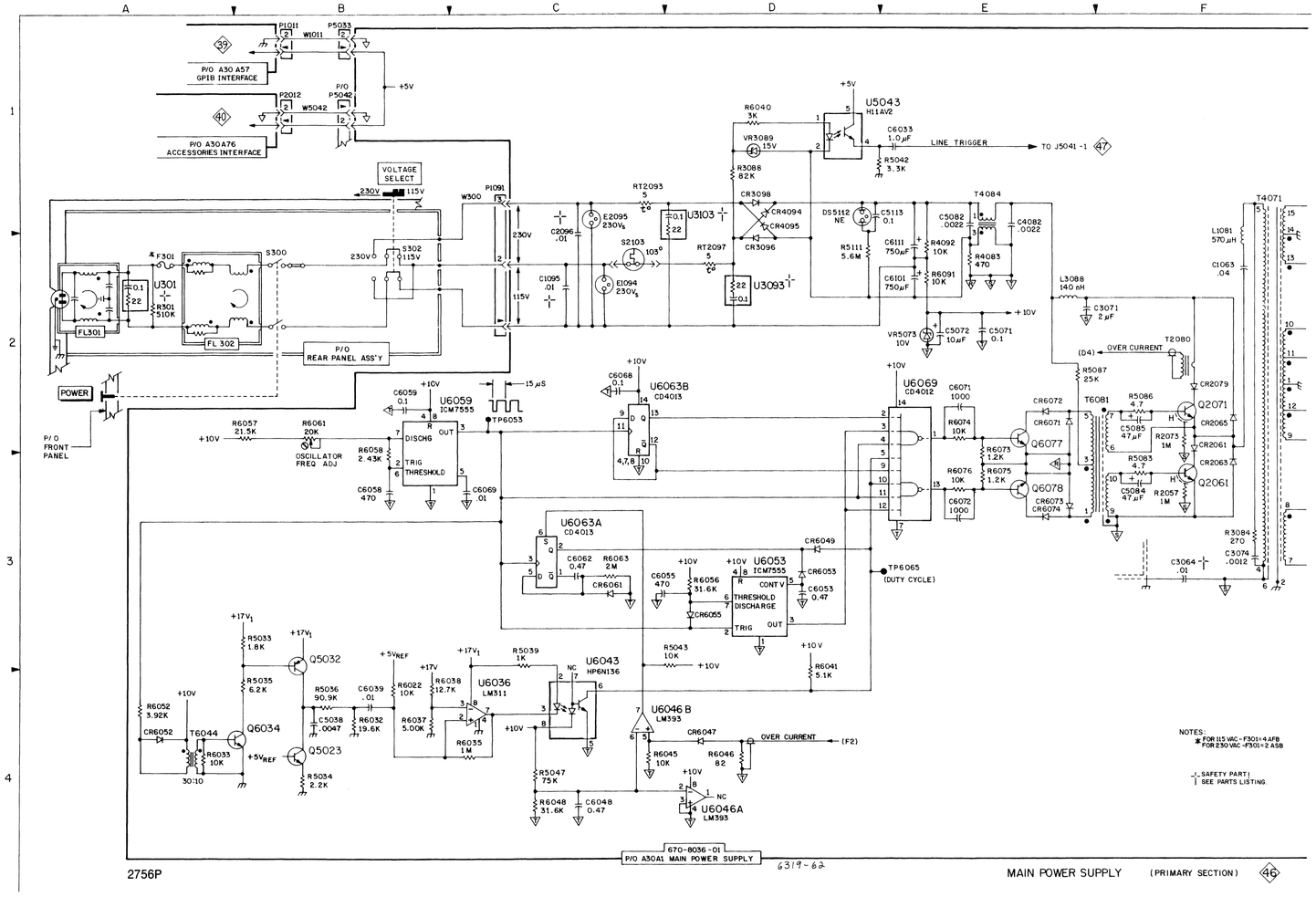


MAIN POWER SUPPLY (PRIMARY SECTION) 46

ASSEMBLY A30A1

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1063	F2	E1	DS5112	D1	L5	R6041	D3	D6
C1095	C2	J1				R6045	C4	D6
C2096	C1	J2	E1094	C2	J1	R6046	D4	D6
C3064	F3	E3	E2095	C1	J2	R6048	C4	D6
C3071	F2	F3				R6052	A4	D6
C3074	F3	F3	J5041	E1	B4	R6056	D3	D6
C4082	E1	G4				R6057	B2	E6
C5038	B4	B5	L1081	F1	G1	R6058	B2	E6
C5071	E2	G5	L3088	E2	H3	R6061	B2	E6
C5072	E2	F5				R6063	C3	E6
C5082	E1	H5	P1091	C1	H1	R6073	E2	F5
C5084	F3	G5	P5033	B1	B5	R6074	E2	F6
C5085	F2	G5	P5042	B1	C5	R6075	E3	F6
C5113	E1	L5				R6076	E3	F6
C6033	E1	C5	Q2061	F3	E2	R6091	E2	H6
C6039	B4	C6	Q2071	F2	F2			
C6048	C4	D6	Q5023	B4	B5	RT2093	C1	H2
C6053	D3	D6	Q5032	B3	B5	RT2097	D2	H2
C6055	C3	D6	Q6034	B4	C6			
C6058	B3	E6	Q6077	E2	F6	S2103	C2	J2
C6059	B2	E6	Q6078	E3	F6			
C6062	C3	E6				T2080	F2	G2
C6068	C2	F6	R2057	F3	E2	T4071	F1	F4
C6069	C3	E6	R2073	F2	G2	T4084	E1	H4
C6071	E2	F6	R3084	F3	G3	T6044	A4	C6
C6072	E3	F6	R3088	D1	H3	T6081	F2	G6
C6101	E2	J6	R4083	E2	G4			
C6111	E2	L6	R4092	E2	H4	TP6053	C2	F6
			R5033	B3	C5	TP6065	E3	F6
CR2061	F2	F2	R5034	B4	B5			
CR2063	F3	F2	R5035	B4	C5	U3093	D2	J3
CR2065	F2	F2	R5036	B4	B5	U3103	D1	J4
CR2079	F2	G2	R5039	C3	C5	U5043	E1	C5
CR3096	D2	J3	R5042	E1	D5	U6036	C4	B6
CR3098	D1	J3	R5043	D3	D6	U6043	C3	C6
CR4094	D1	J4	R5047	C4	D5	U6046A	D4	C6
CR4095	D1	J4	R5083	F2	G5	U6046B	C4	C6
CR6047	D4	D6	R5086	F2	H5	U6053	D3	D6
CR6049	D3	D5	R5087	E2	H6	U6059	C2	E6
CR6052	A4	D6	R5111	D2	L5	U6063A	C3	E6
CR6053	D3	D6	R6022	B4	B6	U6063B	C2	E6
CR6055	D3	D6	R6032	B4	B6	U6069	E2	F6
CR6061	C3	E6	R6033	A4	C5			
CR6071	E2	F6	R6035	C4	B6	VR3089	D1	H3
CR6072	E2	F6	R6037	B4	B6	VR5073	E2	G6
CR6073	E3	G6	R6038	B4	C6			
CR6074	E3	G6	R6040	D1	C6			

Partial A30A1 also shown on diagram 47.



MAIN POWER SUPPLY (SECONDARY & FAN DRIVE) 47

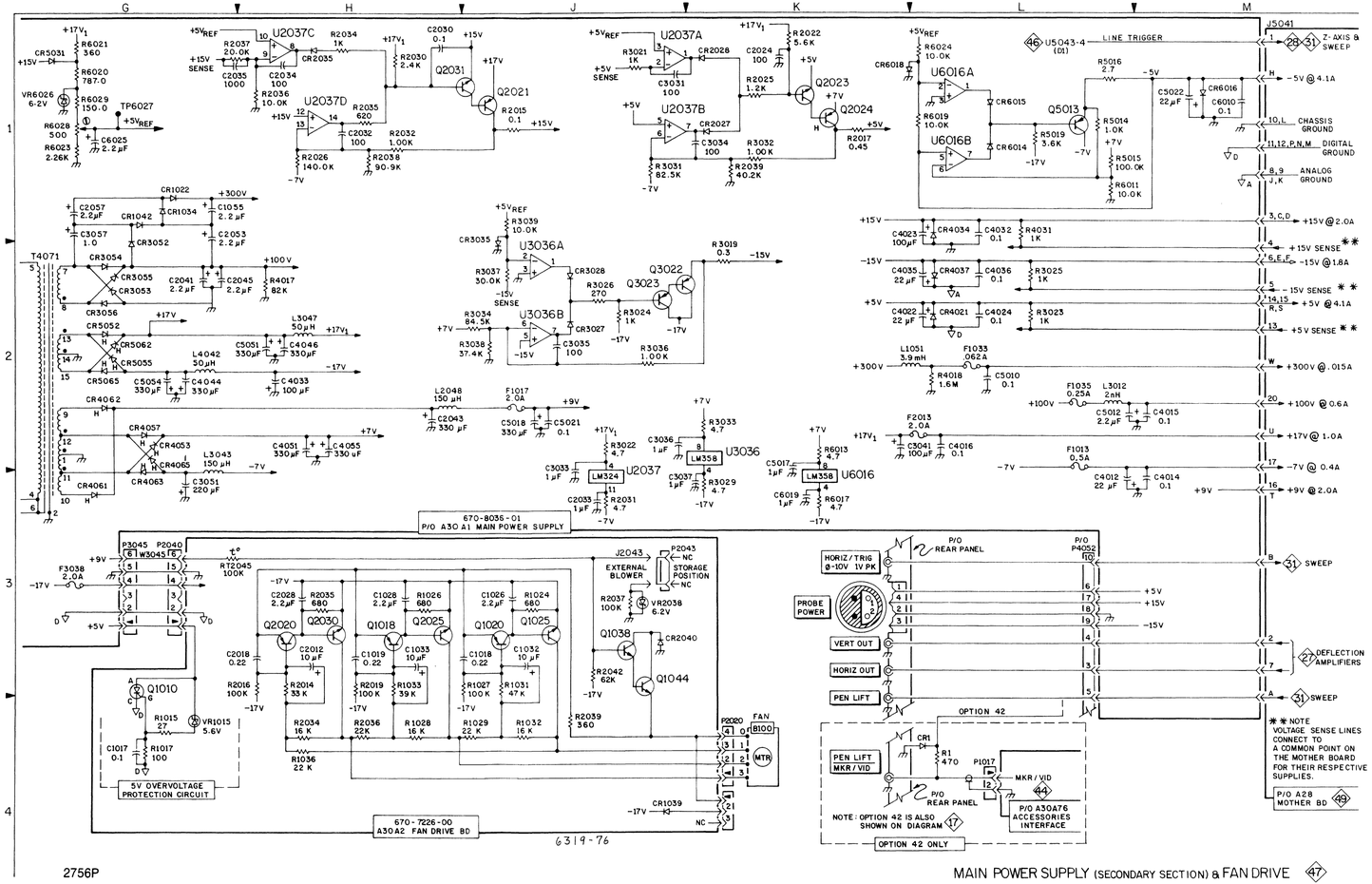
ASSEMBLY A30A1

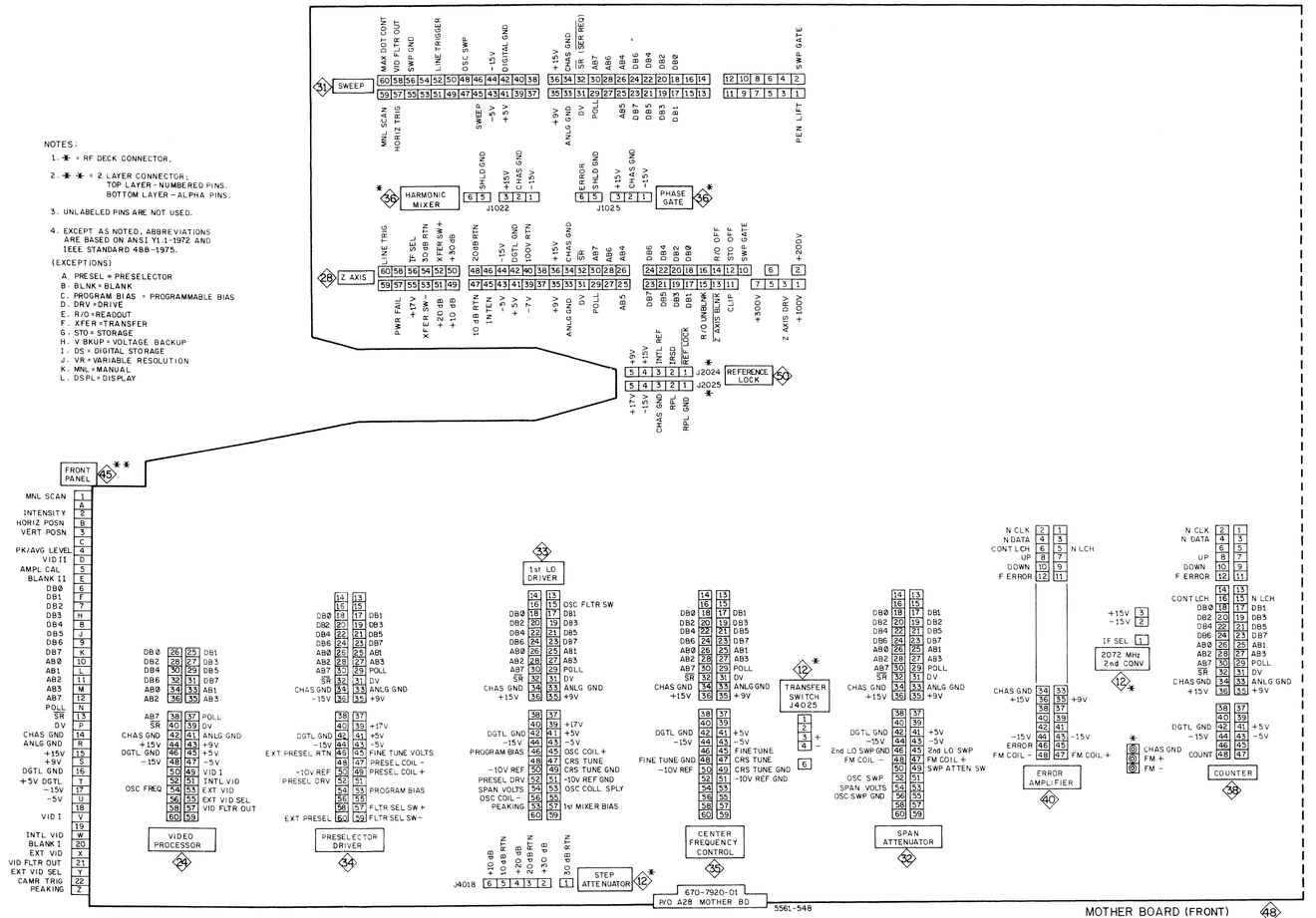
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1055	G1	D1
C2024	K1	B2
C2030	H1	B1
C2032	H1	B2
C2033	J3	C1
C2034	H1	C2
C2035	G1	C2
C2041	G2	C2
C2043	H2	C2
C2045	G2	D2
C2053	G1	D2
C2057	G1	D2
C3031	J1	B3
C3033	J2	C3
C3034	K1	C2
C3035	J2	B3
C3036	J2	B3
C3037	J3	C3
C3041	K2	C3
C3051	G3	D3
C3057	G1	E3
C4012	L2	A4
C4014	M2	A4
C4015	M2	A4
C4016	L2	A4
C4022	K2	B4
C4023	K1	B4
C4024	L2	B4
C4032	L1	B4
C4033	H2	C4
C4035	K2	C4
C4036	L2	B4
C4044	G2	C4
C4046	H2	D4
C4051	H2	D4
C4055	H2	D4
C5010	L2	A5
C5012	L2	A5
C5017	K2	A5
C5018	J2	A5
C5021	J2	B5
C5022	M1	A5
C5051	H2	D5
C5054	G2	D5
C6010	M1	A6
C6019	K3	A6
C6025	G1	B6
CR1022	G1	B1
CR1034	G1	C1
CR1042	G1	C1
CR2027	K1	B2
CR2028	K1	B2
CR2035	H1	C2
CR3027	J2	B3
CR3028	J2	B3
CR3035	J1	C2
CR3052	G2	D2
CR3053	G2	D3
CR3054	G2	E3
CR3055	G2	E3
CR3056	G2	E3
CR4021	L2	B4
CR4034	L1	C4
CR4037	L2	B4
CR4053	G2	E4
CR4057	G2	E4
CR4061	G3	E3
CR4062	G2	E4
CR4063	G3	E4
CR4065	G2	E4
CR5031	G1	B5
CR5052	G2	E5
CR5055	G2	E5
CR5062	G2	E5
CR5065	G2	E5
CR6014	L1	A6
CR6015	L1	A6
CR6016	M1	A6
CR6018	K1	A6
F1013	L2	A1
F1017	J2	A1
F1033	L2	C1
F1035	L2	C1
F2013	K2	A2
F3038	A3	C3
L1051	K2	D1
L2048	H2	D2
L3012	J2	A3
L3047	G2	D3
P3045	G3	C3
P5042	L3	C5
Q2021	J1	B2
Q2023	K1	B2
Q2024	K1	B2
Q2031	H1	B2
Q3022	J2	B3
Q3023	J2	B3
Q5013	L1	A5
R2015	J1	A2
R2017	K1	A2
R2022	K1	A2
R2025	K1	B2
R2026	H1	B2
R2030	H1	B2
R2031	J3	B2
R2032	H1	C1
R2034	H1	C2
R2035	H1	C2
R3019	K1	A3
R3021	J1	B3
R3022	J2	B3
R3023	L2	A3
R3024	J2	B3
R3025	L2	B3
R3026	H1	C2
R3027	H1	C2
R3029	K3	B3
R3031	J1	C3
R3032	K1	C2
R3033	K2	B3
R3034	J2	C3
R3036	J2	C3
R3037	J2	C3
R3038	J2	C3
R3039	J1	C3
R4017	H2	A4
R4018	L2	A4
R4031	L1	B4
R4032	L1	A5
R5014	L1	A5
R5015	L1	A5
R5016	L1	A5
R5019	L1	A6
R6011	L1	A6
R6013	K2	A6
R6017	K3	A6
R6019	L1	A6
R6020	G1	B6
R6021	G1	B6
R6023	G1	B6
R6024	L1	A6
R6028	G1	B6
R6029	G1	B6
T4071	G2	F4
TP6027	G1	B6
U2037A	J1	B2
U2037B	J1	B2
U2037C	H1	B2
U2037D	H1	B2
U2037	J2	B2
U3036A	J3	C3
U3036B	J3	C3
U3036	K2	B3
U5043	L1	C5
U6016A	L1	A6
U6016B	L1	A6
U6016	K2	A6
VR6026	G1	B6

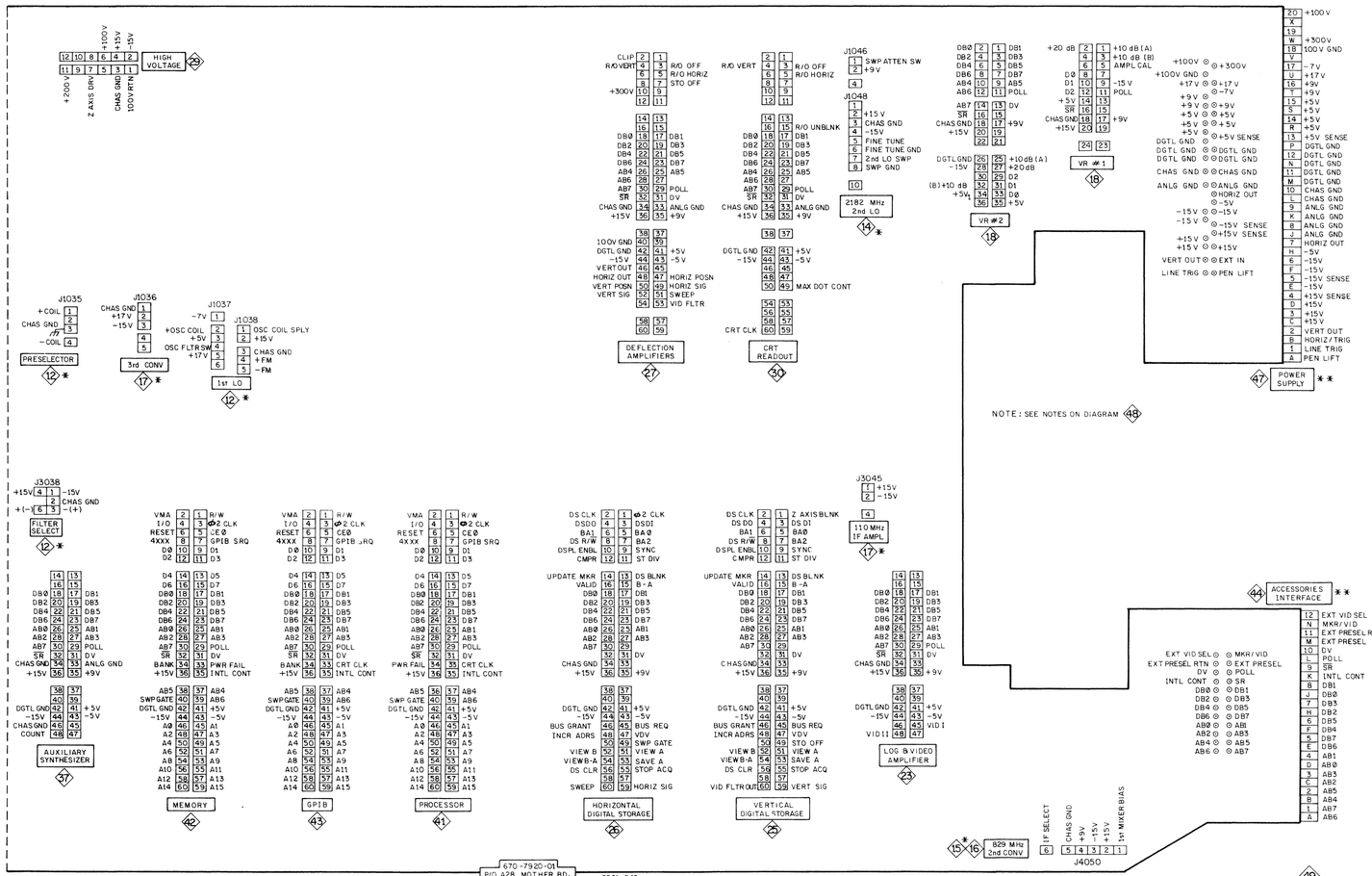
Partial A30A1 also shown on diagram 46.

ASSEMBLY A30A2

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1017	G4	A1
C1018	J3	A1
C1019	H3	A2
C1026	J3	B1
C1028	H3	B1
C1032	J3	C1
C1033	H3	B1
C2012	H3	A2
C2018	G3	A2
C2028	H3	B2
CR1039	J4	C1
CR2040	J3	D1
P1037	D4	C1
P2020	K4	B2
P2040	G3	C2
P2043	J3	C2
Q1010	G3	A1
Q1018	H3	A1
Q1020	J3	B1
Q1025	J3	B1
Q1038	J3	D1
Q1044	J3	D1
Q2020	H3	A2
Q2025	H3	B2
Q2030	H3	B2
R1015	G4	A1
R1017	G4	A1
R1024	J3	B1
R1026	H3	C2
R1027	J3	B1
R1028	H4	B1
R1029	J4	B1
R1031	J3	C1
R1032	J4	C1
R1033	H3	C1
R1036	H4	C1
R2014	H3	A2
R2016	G3	A2
R2019	H3	A2
R2034	H4	C2
R2035	H3	B2
R2036	H4	C2
R2037	J3	C2
R2039	J4	C2
R2042	J3	D1
RT2045	G3	D1
VR1015	G4	A1
VR2038	J3	C2

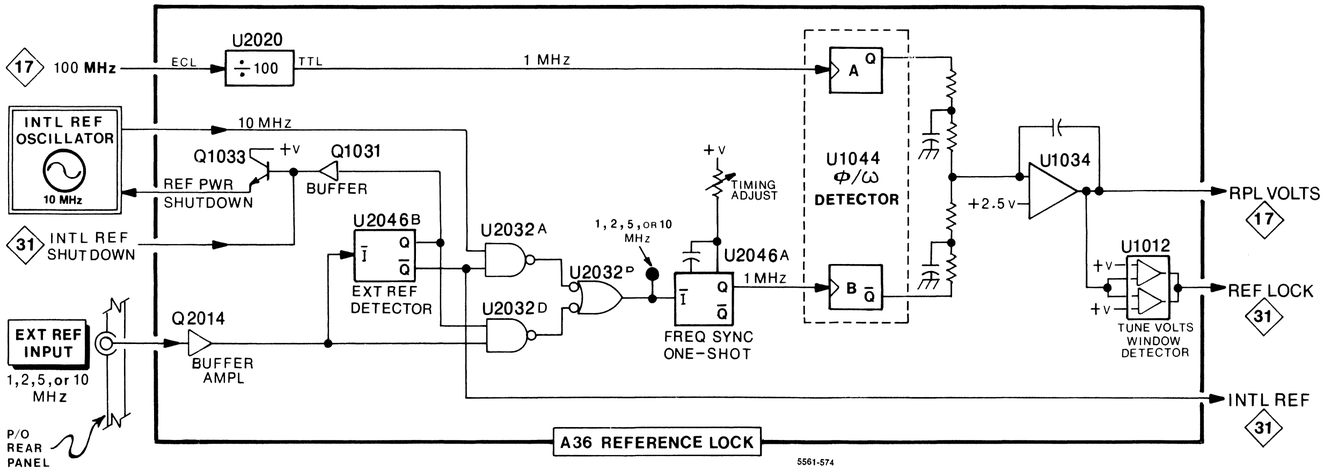



NOTES:
1. ✱ = RF DECK CONNECTOR.
2. ✱✱ = 2 LAYER CONNECTOR; TOP LAYER - NUMBERED PINS. BOTTOM LAYER - ALPHA PINS.
3. UNLABELED PINS ARE NOT USED.
4. EXCEPT AS NOTED, ABBREVIATIONS ARE BASED ON ANSI Y1.1-1972 AND IEEE STANDARD 488-1975.
(EXCEPTIONS)
A. PRESEL = PRESELECTOR
B. BLNK = BLANK
C. PROGRAM BIAS = PROGRAMMABLE BIAS
D. DRV = DRIVE
E. R/O = READOUT
F. XFER = TRANSFER
G. STO = STORAGE
H. V BKUP = VOLTAGE BACKUP
I. DS = DIGITAL STORAGE
J. VR = VARIABLE RESOLUTION
K. MNL = MANUAL
L. DSPL = DISPLAY
31 SWEEP
MAX DOT CONT
VID FLTR OUT
SWP GND
LINE TRIGGER
OSC SWP
-15V
DIGITAL GND
CHAS GND
SR (SER REQ)
AB7
AB6
AB4
DB6
DB4
DB2
DB0
SWP GATE
MNL SCAN
HORIZ TRIG
SWEEP
+5V
+5V
+9V
ANLG GND
0V
POLL
AB5
AB7
DB7
DB5
DB3
DB1
PEN LIFT
36 HARMONIC MIXER
J1022
SHLD GND
+15V
CHAS GND
-15V
ERROR
SHLD GND
+15V
CHAS GND
-15V
J1025
PHASE GATE 46
28 Z AXIS
LINE TRIG
1F SEL
30dB RTN
XFER SW+
+20 dB
+10 dB
20dB RTN
10 dB RTN
IN TEN
-15V
-5V
+5V
-7V
DGTL GND
100V RTN
CHAS GND
+15V
SR
AB7
AB6
AB4
+9V
ANLG GND
0V
POLL
AB5
DB6
DB4
DB2
DB0
R/O OFF
STO OFF
SWP GATE
+200V
+30DV
Z AXIS DRV
+100V
PWR FAIL
+17V
XFER SW-
+20 dB
+10 dB
Z AXIS BLNK
CLK
P/O UNBLNK
J2024
J2025
+9V
+15V
INTL REF
TRIG
REF LOCK
+17V
-15V
CHAS GND
RPL
RPL GND
REFERENCE LOCK 50
FRONT PANEL 65 ✱✱
MNL SCAN
INTENSITY
HORIZ POSN
VERT POSN
PK/AVG LEVEL
VID I1
AMPL CAL
BLANK I1
DB0
DB1
DB2
DB3
DB4
DB5
DB6
DB7
AB0
AB1
AB2
AB3
AB7
POLL
SR
DV
CHAS GND
ANLG GND
+15V
+9V
DGTL GND
+5V DGTL
-15V
-5V
VID I
INTL VID
BLANK I
EXT VID
VID FLTR OUT
EXT VID SEL
CAMR TRIG
PEAKING
VIDEO PROCESSOR 24
OSC FREQ
VID I
INTL VID
EXT VID
EXT VID SEL
VID FLTR OUT
PRESELECTOR DRIVER 34
EXT PRESEL
PROGRAM BIAS
FLTR SEL SW+
FLTR SEL SW-
FINE TUNE VOLTS
PRESEL COIL -
PRESEL COIL +
1st LO DRIVER 33
OSC FLTR SW
-10V REF
PRESEL DRV
SPAN VOLTS
OSC COIL -
PEAKING
PROGRAM BIAS
1st MIXER BIAS
OSC COIL SPLY
-10V REF GND
CRS TUNE GND
CRS TUNE
OSC COIL +
J4018
+10 dB
10 dB RTN
+20 dB
20 dB RTN
+30 dB
30 dB RTN
STEP ATTENUATOR 12
CENTER FREQUENCY CONTROL 35
FINE TUNE GND
FINE TUNE
CRS TUNE GND
TRANSFER SWITCH J4025 12 ✱
SPAN ATTENUATOR 32
2nd LO SWP GND
SPAN VOLTS
OSC SWP GND
OSC SWP
2nd LO SWP
SWP ATTEN SW
N CLK
N DATA
CONT LCH
UP
DOWN
F ERROR
N LCH
ERROR AMPLIFIER 40
FM COIL +
FM COIL -
IF SEL
2072 MHz 2nd CONV 12 ✱
COUNTER 38
CHAS GND
FM +
FM -
670-7920-01
P/O A28 MOTHER BD
5561-548
MOTHER BOARD (FRONT) 48
2756P


HIGH VOLTAGE
+200V
Z AXIS DRV
CHAS GND
-100V RTN
-15V
+100V
PRESELECTOR
3rd CONV
1st LO
OSC COIL SPLY
CHAS GND
+FM
-FM
DEFLECTION AMPLIFIERS
CRT READOUT
R/O VERT
R/O HORIZ
R/O OFF
STO OFF
POLL
ANLG GND
HORIZ POSN
HORIZ SIG
SWEEP
VID FLTR
MAX DOT CONT
SWP ATTEN SW
+9V
CHAS GND
-15V
FINE TUNE
FINE TUNE GND
2nd LO SWP
SWP GND
2182 MHz 2nd LO
VR #2
VR #1
+10 dB (A)
+10 dB (B)
AMPL CAL
+20 dB
+10dB (A)
+20dB
D2
D1
D0
+5V
-15V
POLL
(B) +10 dB
+5V
+100V
+100V GND
+17V
-7V
+9V
+5V
+5V SENSE
DGTL GND
CHAS GND
ANLG GND
HORIZ OUT
-5V
-15V SENSE
+15V
VERT OUT
EXT IN
LINE TRIG
PEN LIFT
POWER SUPPLY
NOTE: SEE NOTES ON DIAGRAM
FILTER SELECT
AUXILIARY SYNTHESIZER
MEMORY
GPIB
PROCESSOR
HORIZONTAL DIGITAL STORAGE
VERTICAL DIGITAL STORAGE
110 MHz IF AMPL
LOG & VIDEO AMPLIFIER
ACCESSORIES INTERFACE
EXT VID SEL
EXT PRESEL RTN
DV
INTL CONT
MKR/VID
EXT PRESEL
POLL
SR
829 MHz 2nd CONV
IF SELECT
1st MIXER BIAS
J4050
MOTHER BOARD (REAR)
670-7920-01
P/O A28 MOTHER BD.
5561-549

2756P

REF LOCK BLOCK DIAGRAM & CKT BD ILLUS



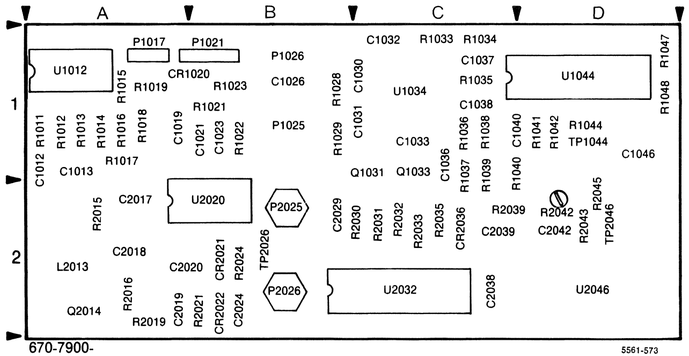
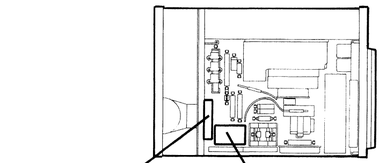


Fig. 10-64. A36A1—Reference Lock circuit board.

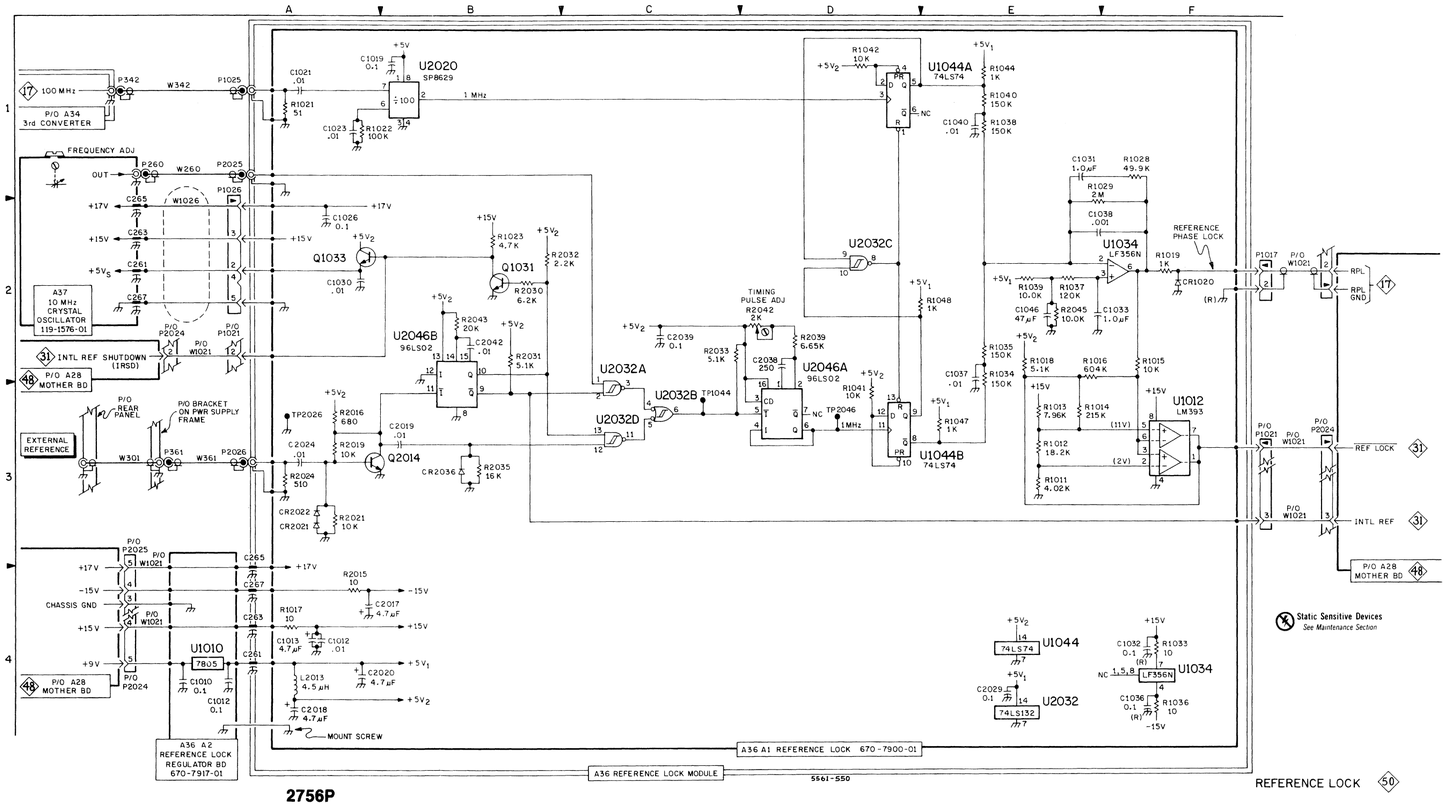


REFERENCE LOCK

50

ASSEMBLY A36A1

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1012	A4	A1	P1025	A1	B1	R1048	E2	D1
C1013	A4	A1	P1026	A2	B1	R2015	A4	A2
C1019	A1	A1	P2025	A1	B2	R2016	A3	A2
C1021	A1	B1	P2026	B1	B2	R2019	A3	A2
C1023	A1	B1				R2021	A3	A2
C1026	A2	B1	Q1031	B2	C1	R2024	A3	B2
C1030	A2	C1	Q1033	A2	C1	R2030	B2	C2
C1031	E1	C1	Q2014	B3	A2	R2031	B2	C2
C1032	F4	C1				R2032	B2	C2
C1033	F2	C1	R1011	E3	A1	R2033	C2	C2
C1036	F4	C1	R1012	E3	A1	R2035	B3	C2
C1037	E2	C1	R1013	E3	A1	R2039	D2	D2
C1038	E2	C1	R1014	E3	A1	R2042	D2	D2
C1040	E1	C1	R1015	F2	A1	R2043	B2	D2
C1046	E2	D1	R1016	E2	A1	R2045	E2	D2
C2017	B4	A2	R1017	A4	A1			
C2018	A4	A2	R1018	E2	A1	TP1044	C3	D1
C2019	B3	A2	R1019	F2	A1	TP2026	B3	B2
C2020	A4	A2	R1021	A1	B1	TP2046	D2	D2
C2024	A3	B2	R1022	A1	B1			
C2029	E4	B2	R1023	B2	B1	U1012	F3	A1
C2038	D2	D2	R1028	F1	B1	U1034	F2	C1
C2039	C2	D2	R1029	E2	B1	U1034	F4	C1
C2042	B2	D2	R1033	F4	C1	U1044A	E1	D1
			R1034	E2	C1	U1044B	E3	D1
CR1020	F2	B1	R1035	E2	C1	U1044	E4	D1
CR2021	A3	B2	R1036	F4	C1	U2020	B1	A2
CR2022	A3	B2	R1037	E2	C1	U2032A	C2	C2
CR2036	B3	C2	R1038	E1	C1	U2032B	C3	C2
			R1039	E2	C1	U2032C	D2	C2
L2013	A4	A2	R1040	E1	C1	U2032D	C3	C2
			R1041	D2	D1	U2032	E4	C2
P1017	F2	A1	R1042	D1	D1	U2046A	D2	D2
P1021	A2	B1	R1044	E1	D1	U2046B	B2	D2
P1021	F3	B1	R1047	E3	D1			



2756P

REFERENCE LOCK 50

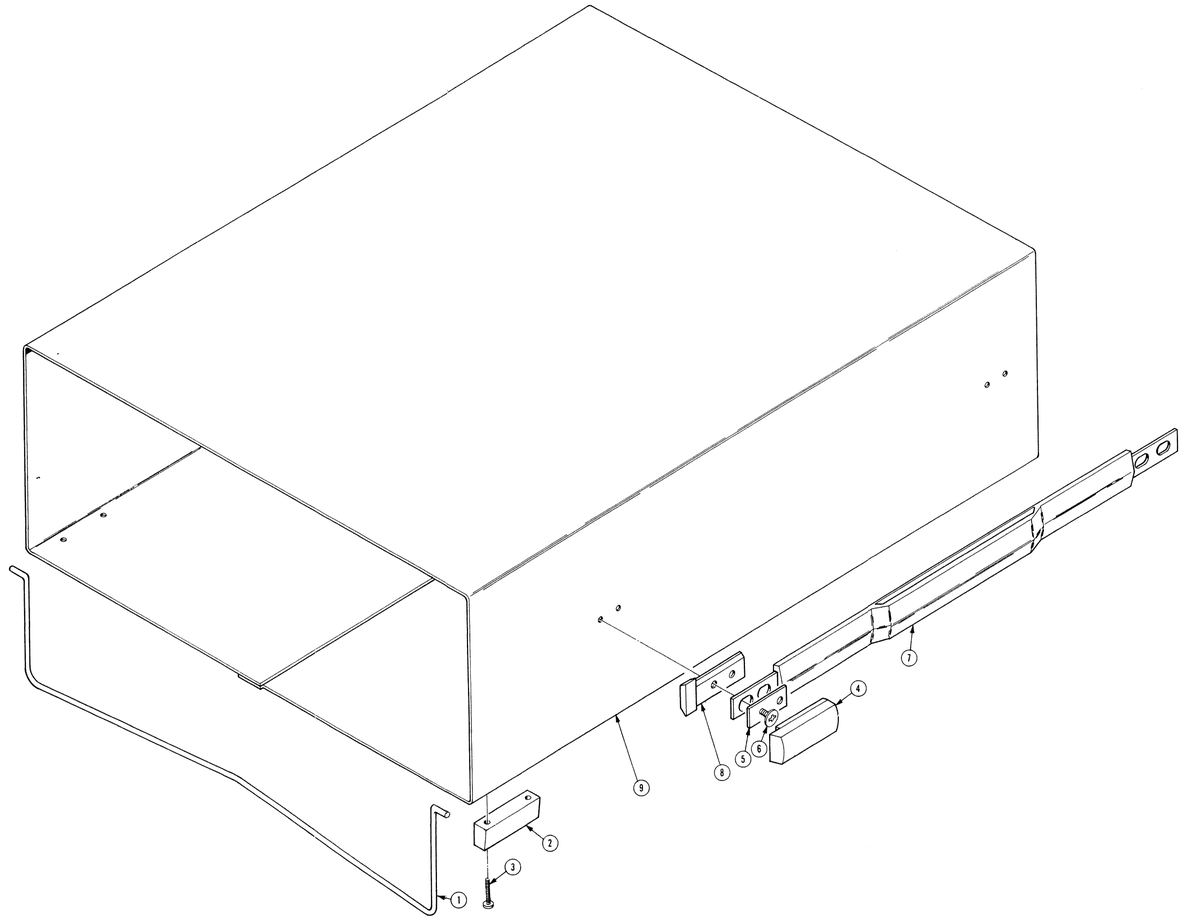

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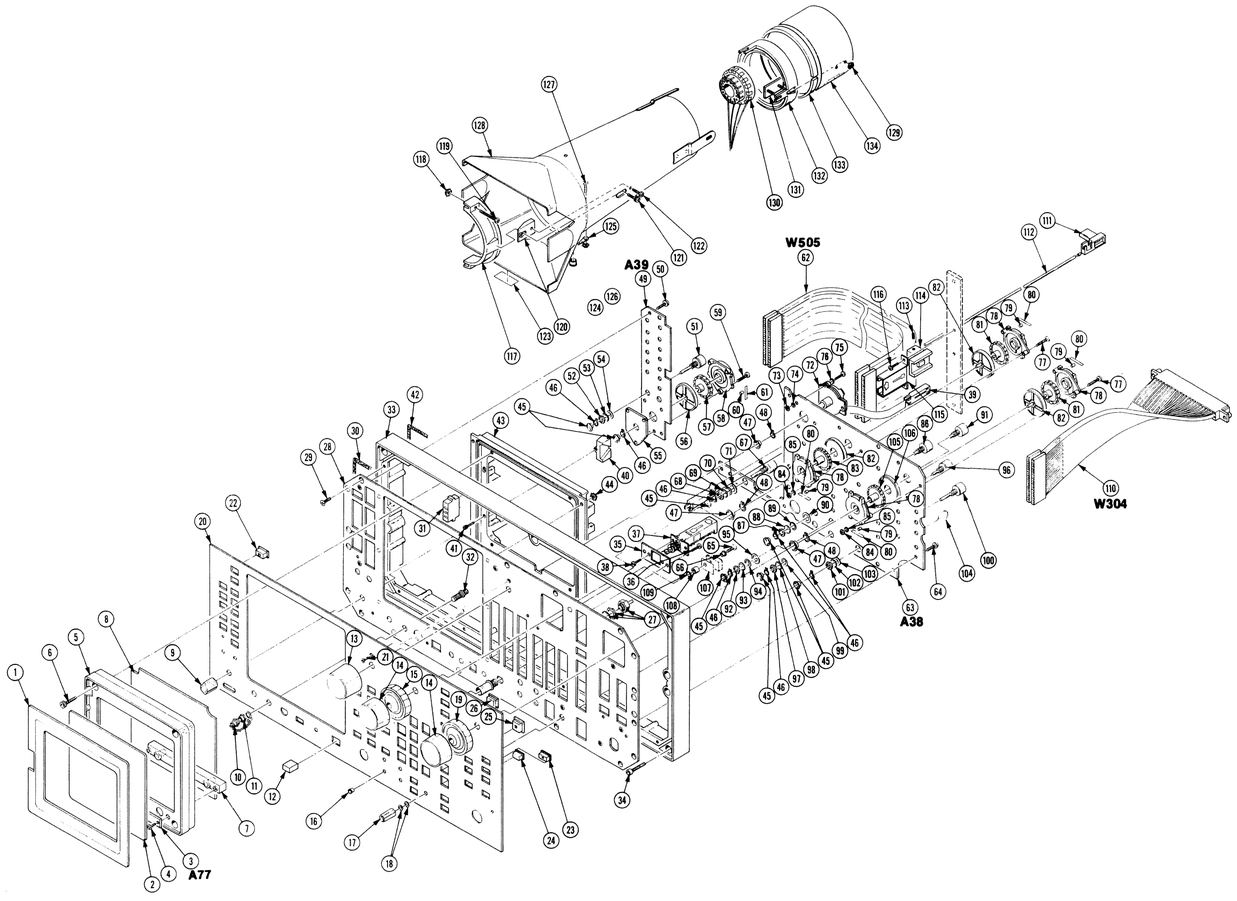
FIG.2 FRONT PANEL & CRT



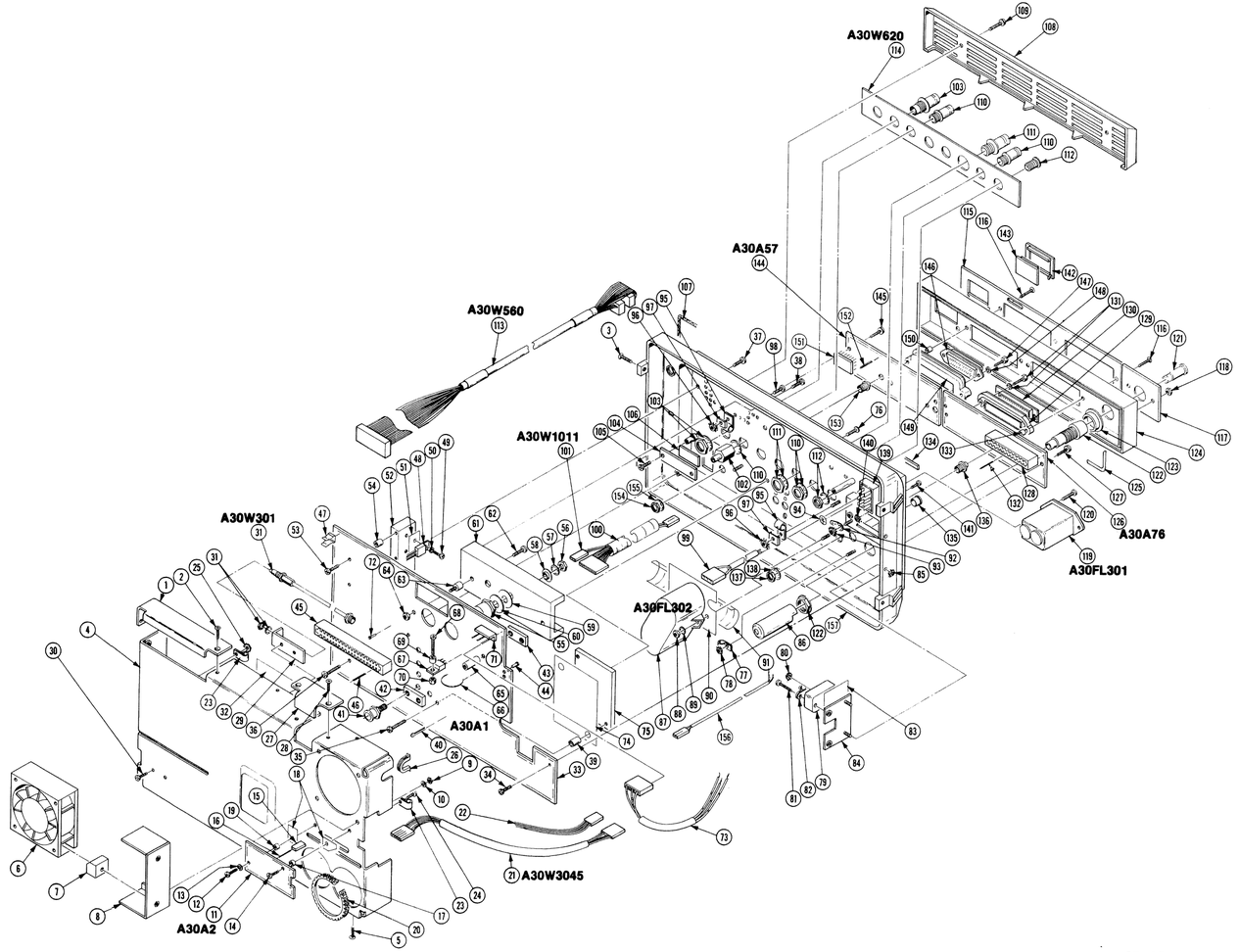
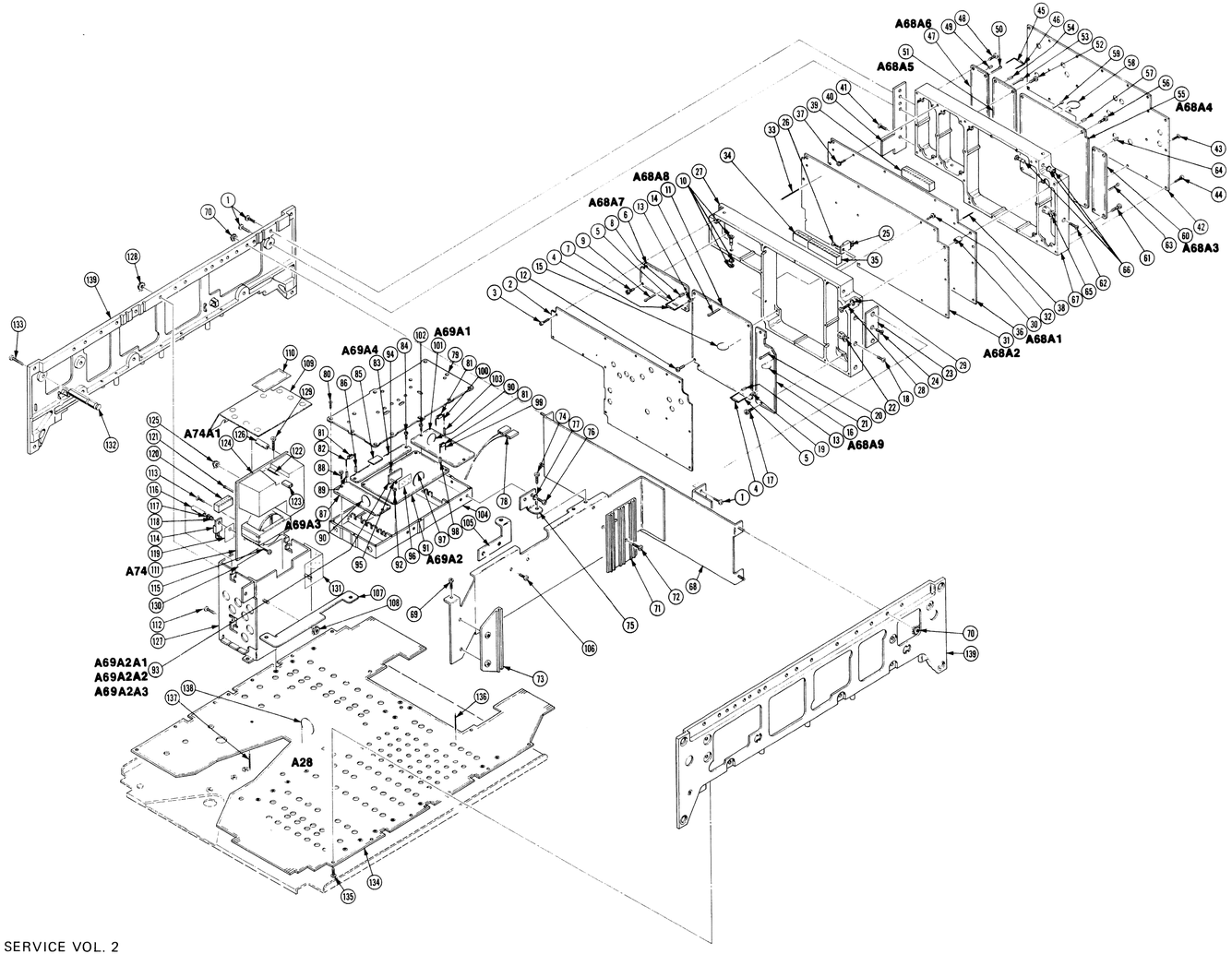
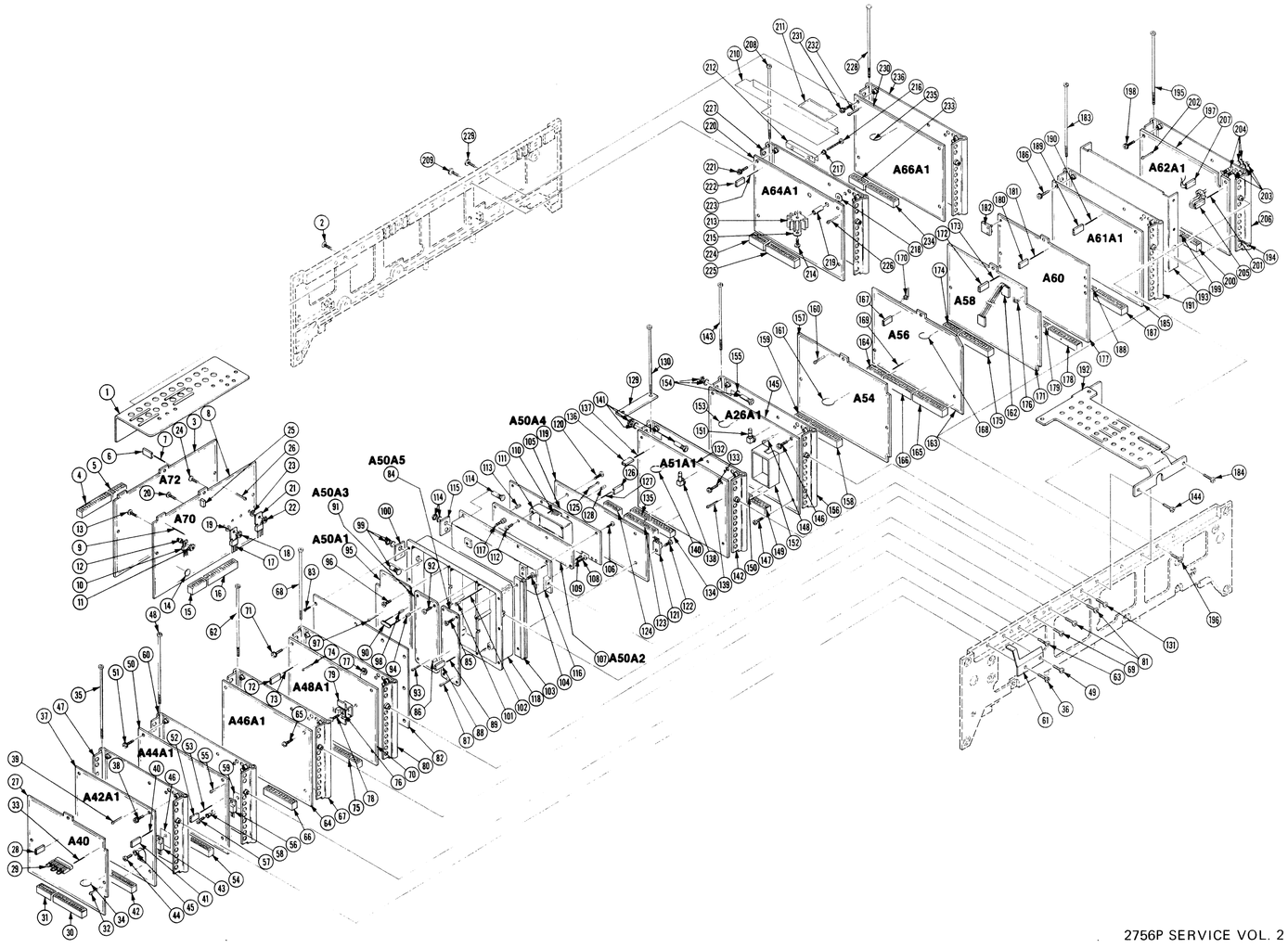

A30W620
A30A57
A30W560
A30W1011
A30W301
A30FL302
A30A76
A30FL301
A30A1
A30W3045
A30A2

FIG. 4 HV & VR MODULE




A72
A70
A50A3
A50A1
A50A5
A50A4
A51A1
A26A1
A54
A56
A58
A60
A61A1
A62A1
A66A1
A64A1
A48A1
A46A1
A44A1
A42A1
A40
A50A2

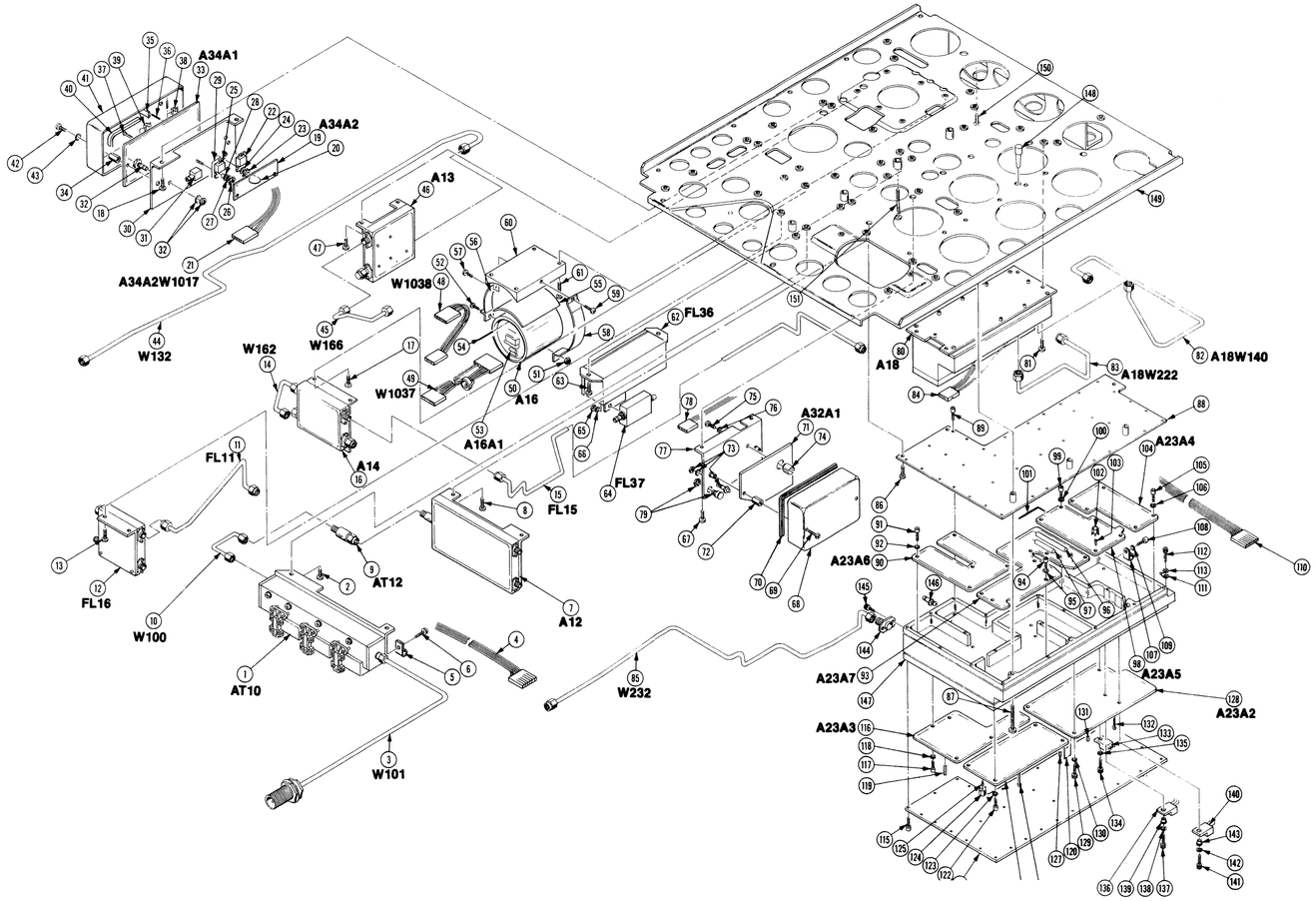
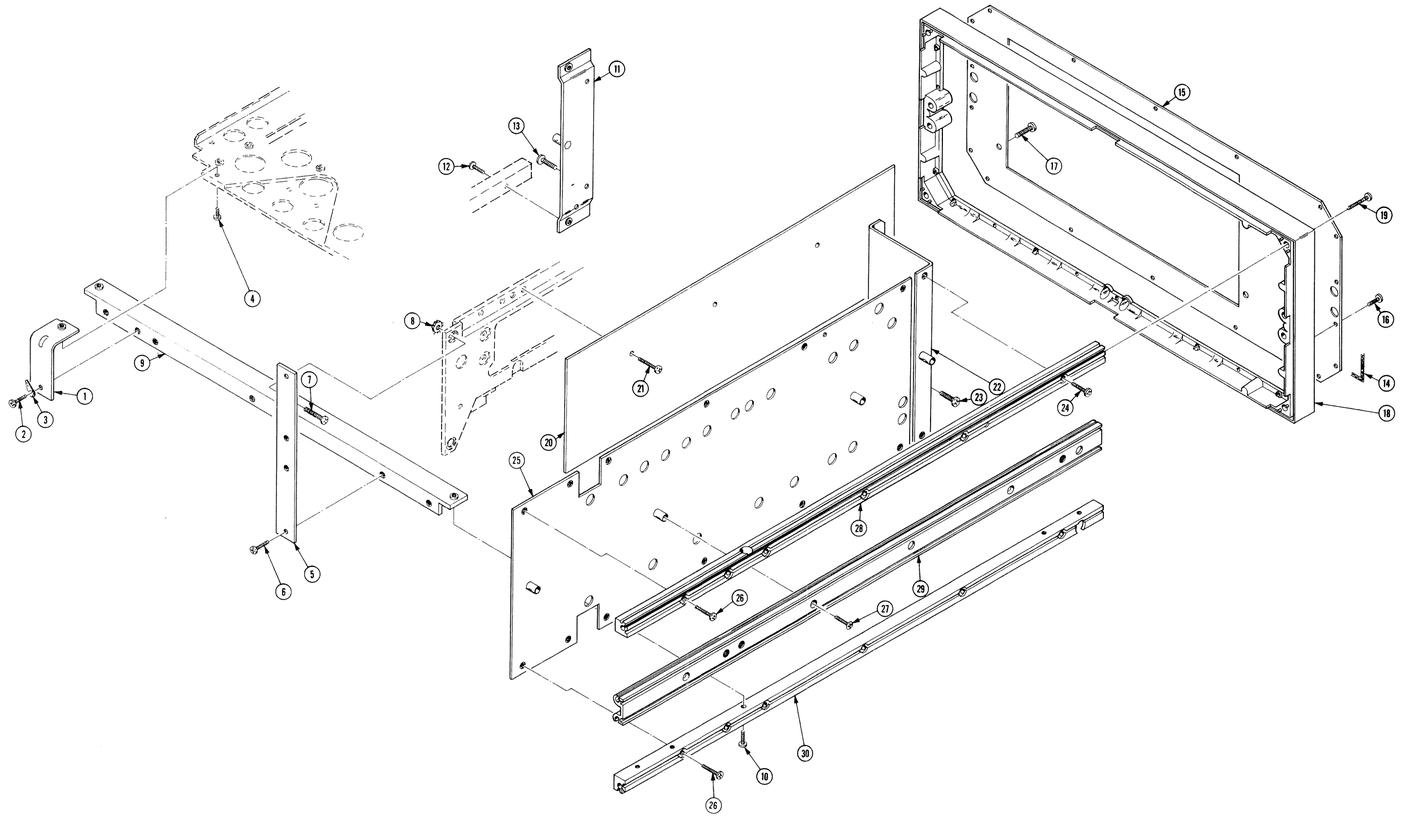


FIG. 6 RF DECK #1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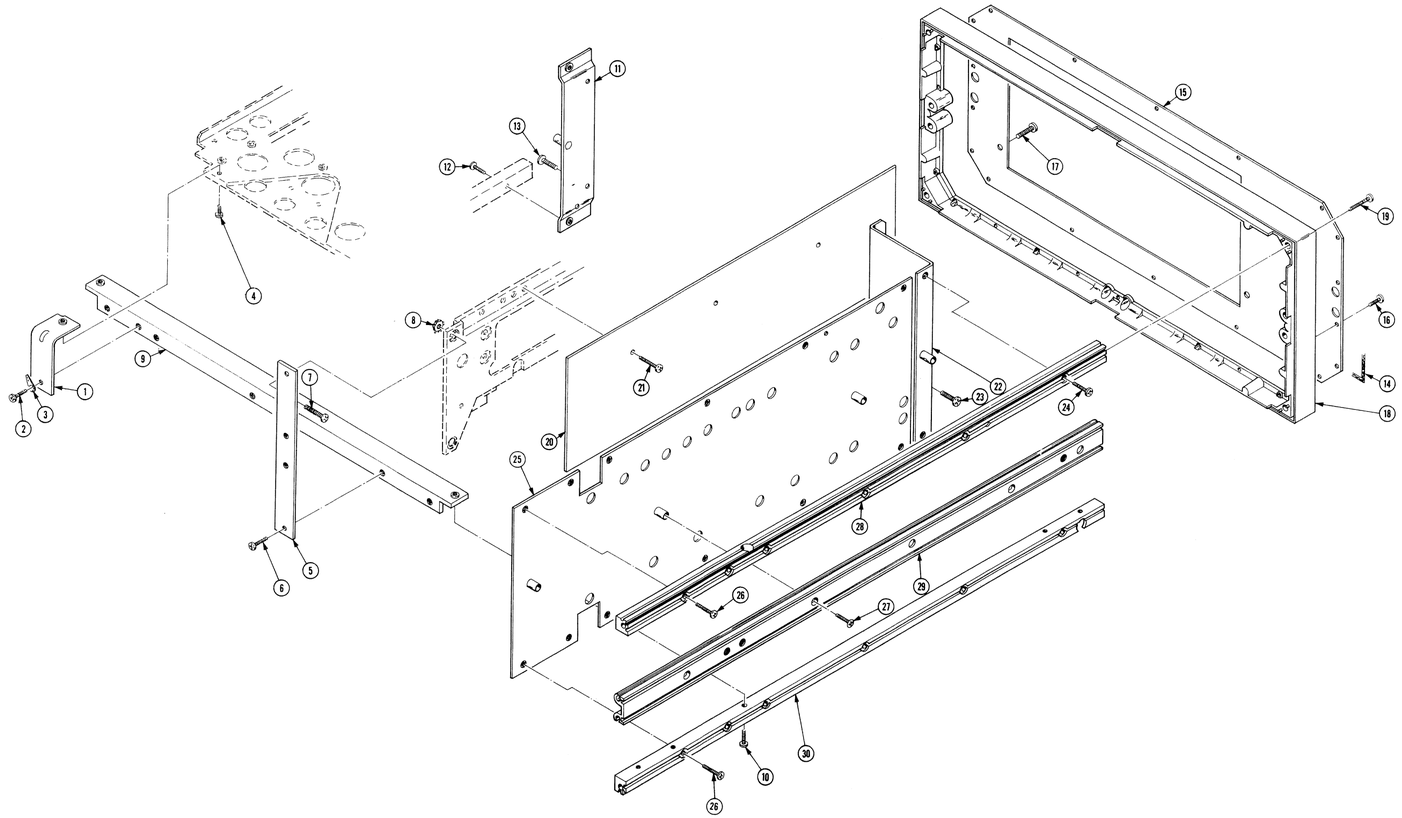
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FIG. 8 FRAME

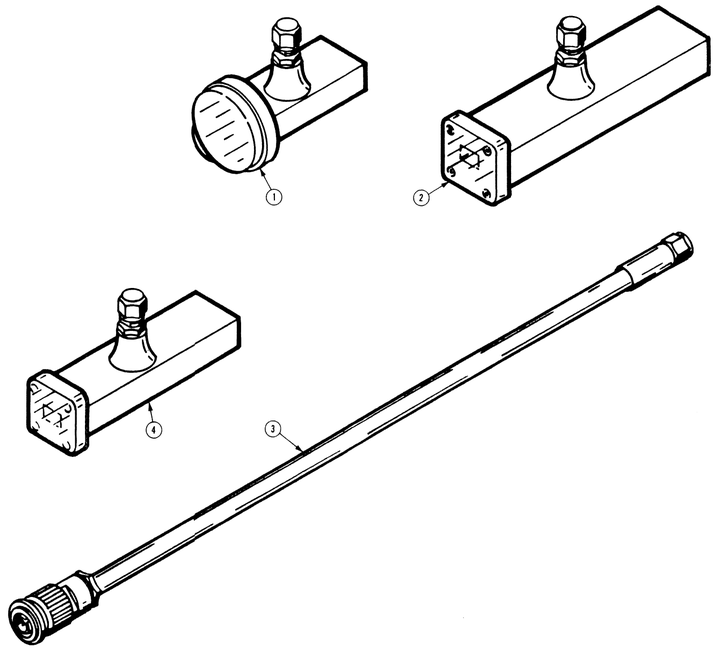
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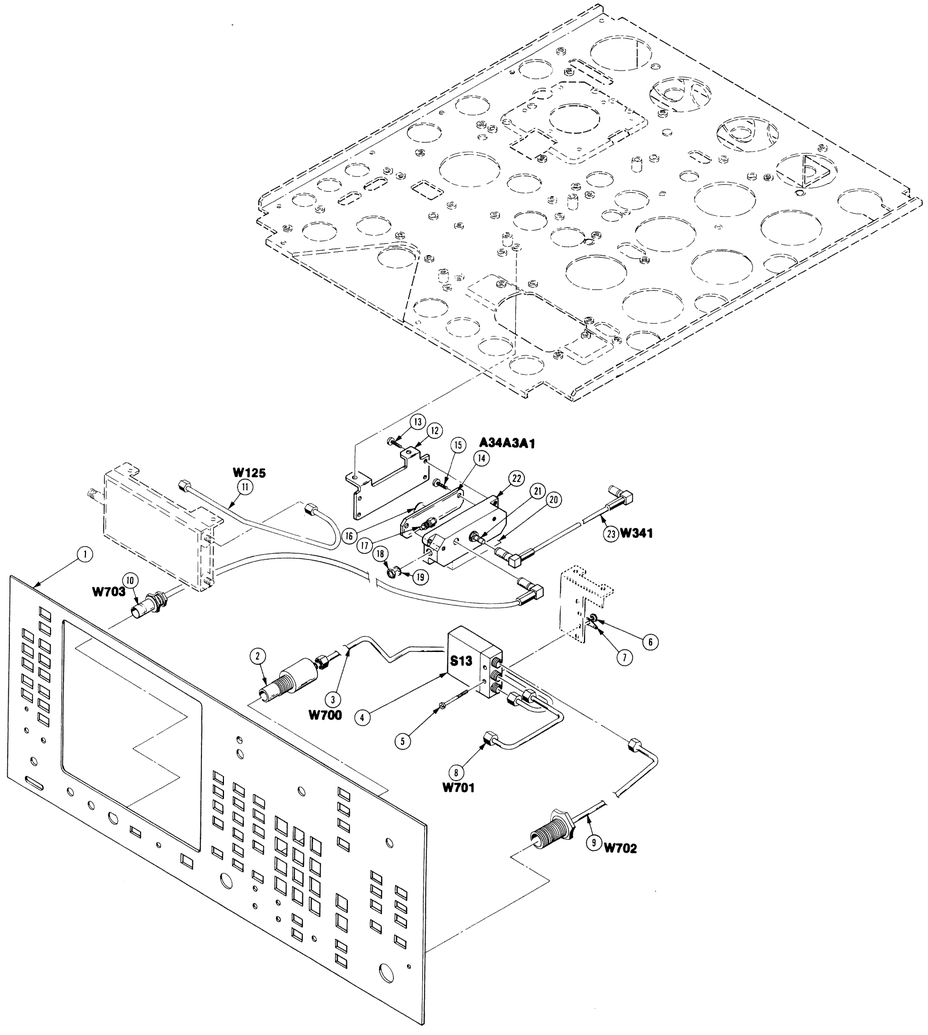
FIG. 10 OPTION 07 & 08



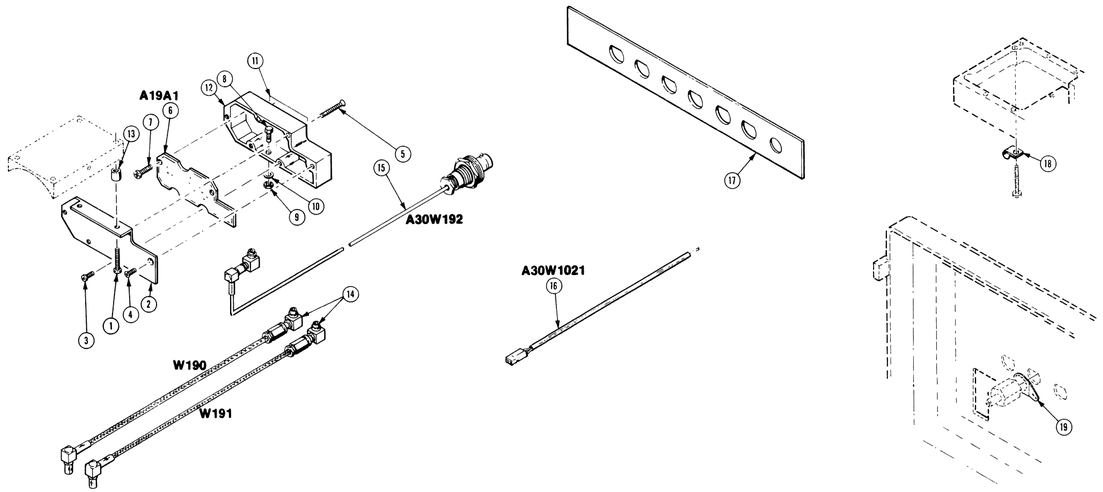
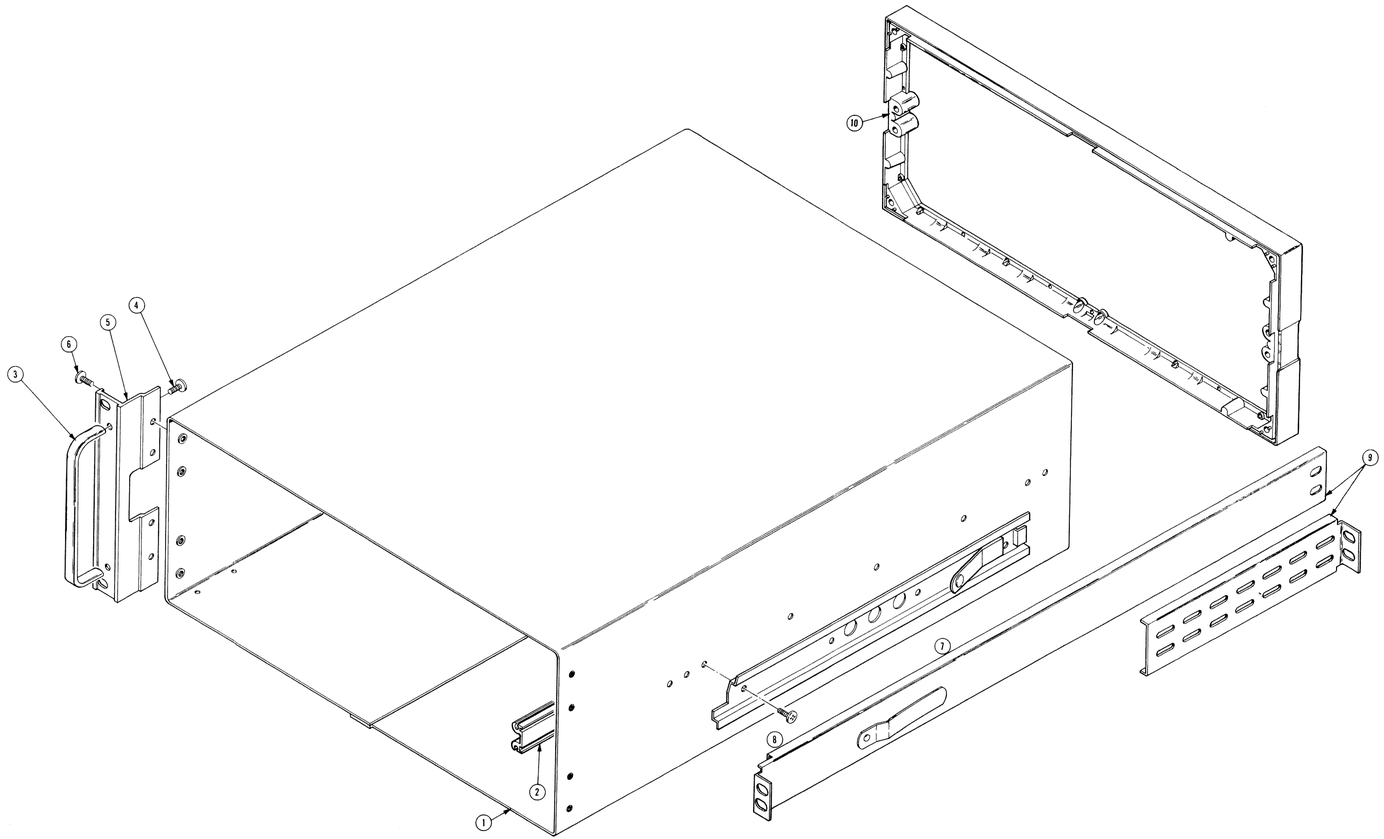

A19A1
A30W192
A30W1021
W190
W191

FIG. 12 OPTION 30



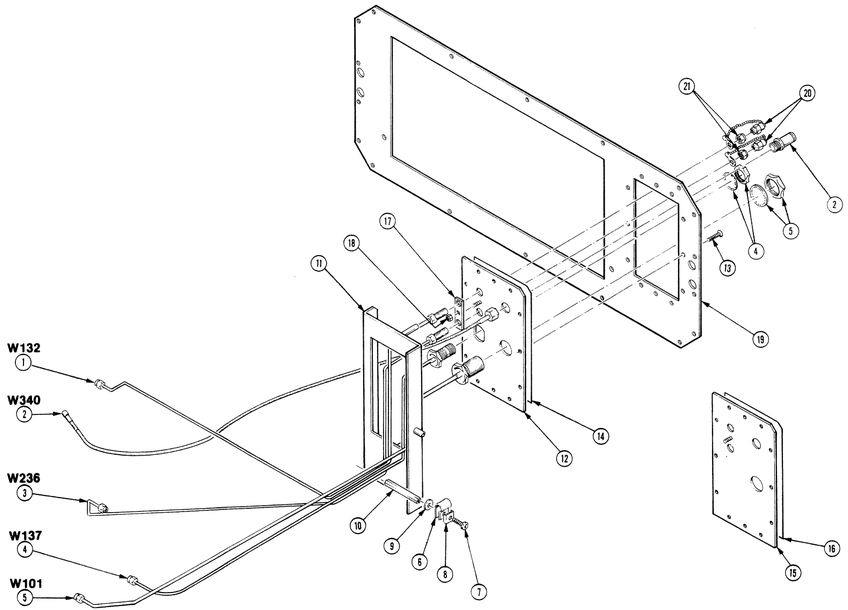


FIG. 13 OPTION 31

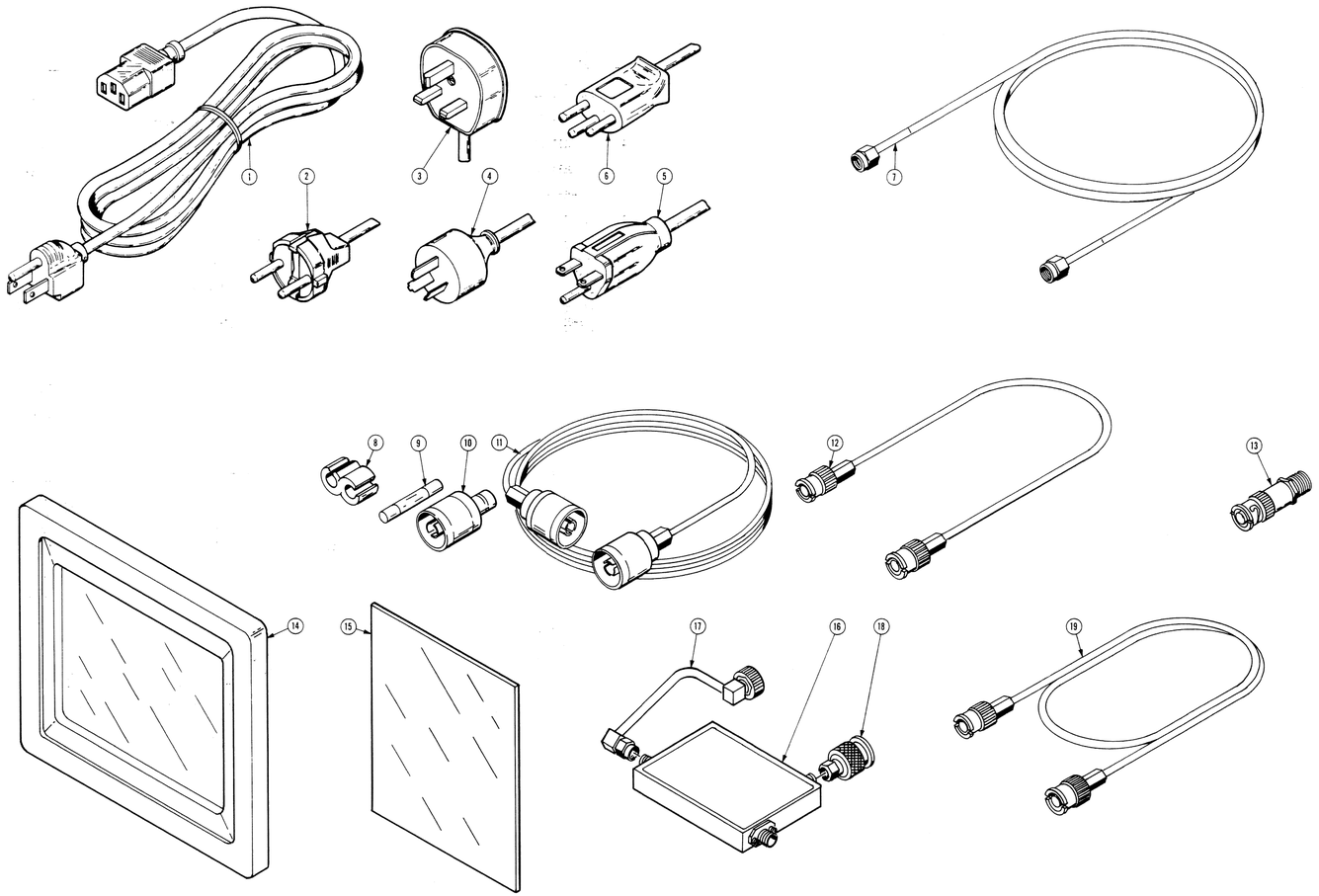


FIG. 14 ACCESSORIES